Med Soc of Va

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

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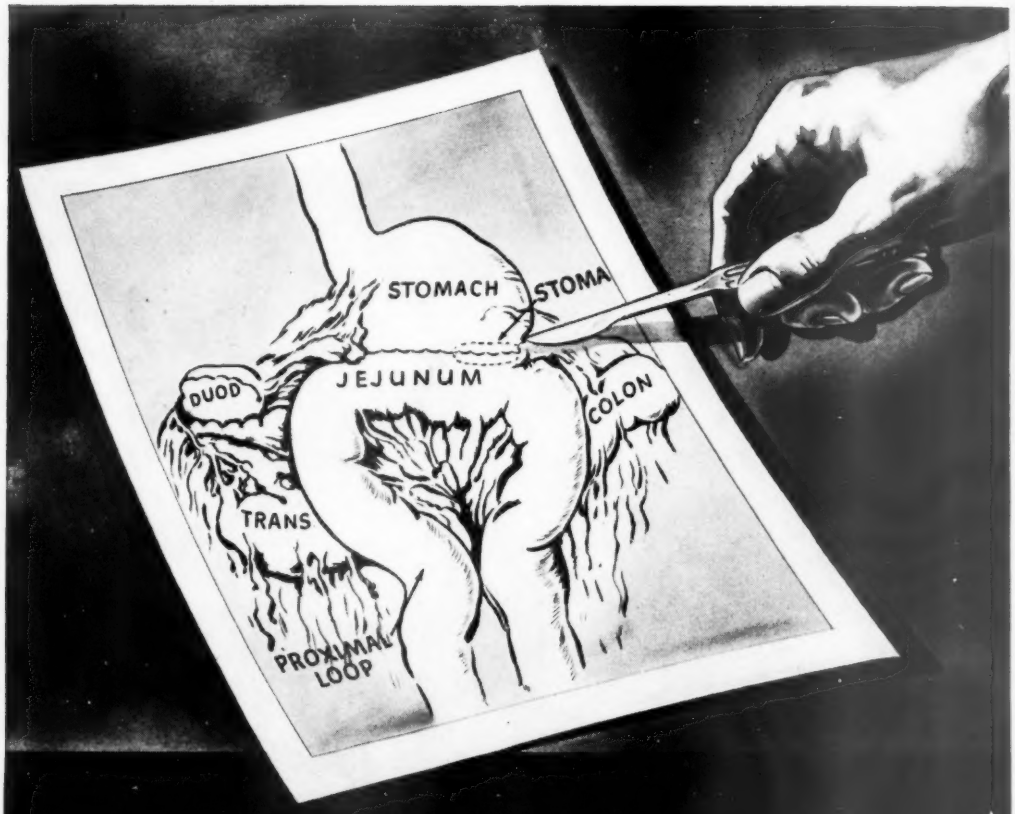

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2. FAULEY, G. B.; FREEMAN, S.; IVY, A. C.; ATKINSON, A. J., and WIGODSKY, H. S.: Aluminum Phosphate in the Therapy of Peptic Ulcer, Arch. Int. Med. 67: 563-578 (March) 1941.

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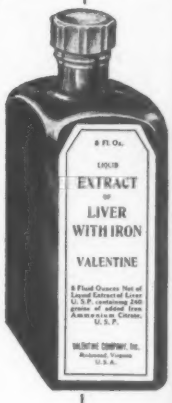

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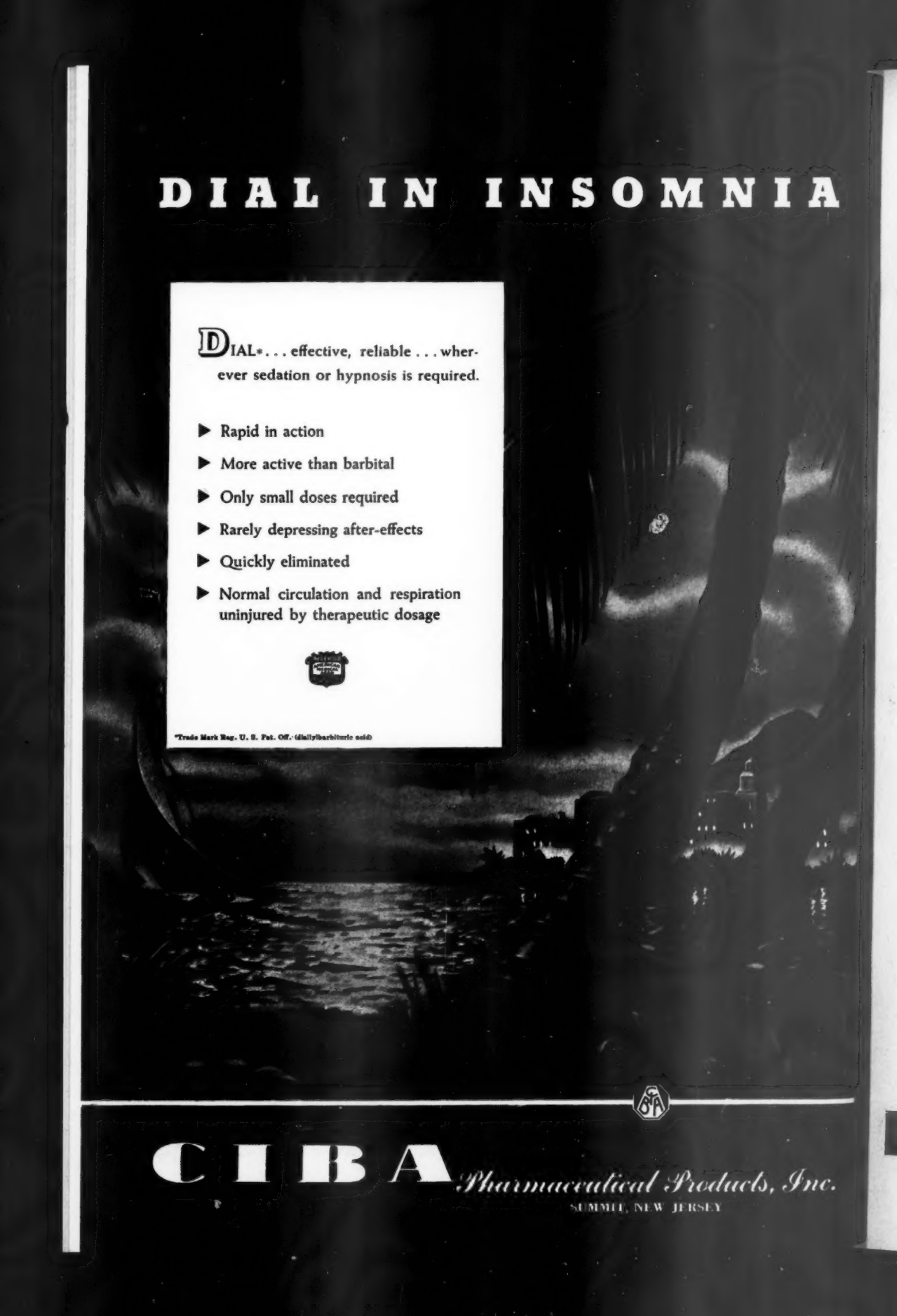
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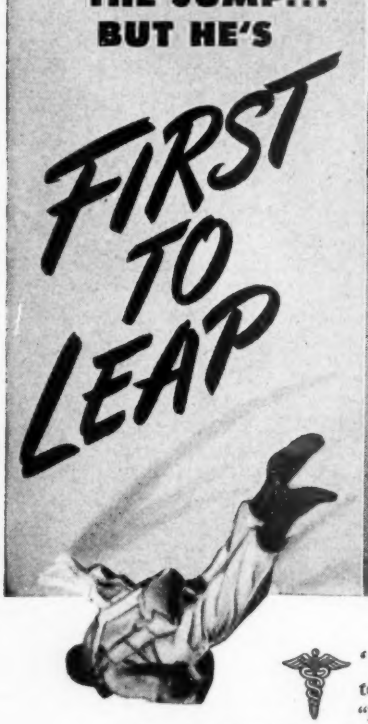

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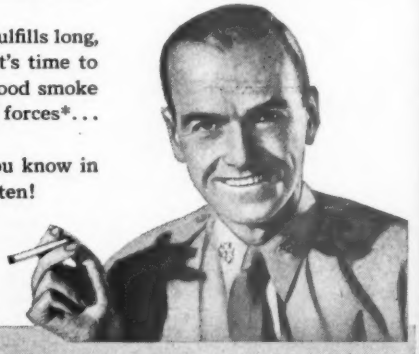

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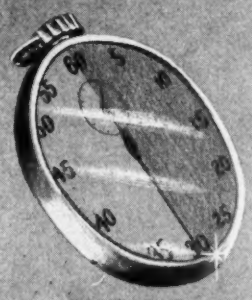

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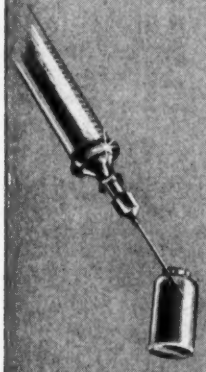

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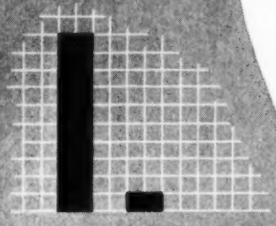

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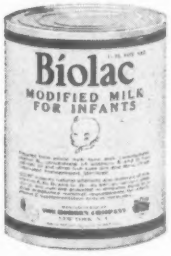

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Guest Editorial

Postwar Planning for Medical Service

PERHAPS the most critical period in the history of the United States as far as medicine is concerned is that which now confronts us. A world intently organized on warfare will in the future become at peace. Then will ensue the demobilization and the return to their homes of millions of men whose lives have been regimented in the military use of that term. Obviously there will be attempts to carry over into civilian life much of the direction and control that marked the lives of all of us in wartime. Nevertheless, true democracy demands a considerable share of responsibility placed on each individual for himself. Destruction of that responsibility leads inevitably to destruction of the democracy under which individualism thrives.

The practice of medicine in the United States has been through the centuries a demonstration of the processes of freedom in human affairs. From the first, the physician has been able to choose those whom he would serve, and the patients have been able to choose those whom they would wish to serve them. There has been no third party—governmental, industrial or financial—interfering with the personal relationship between doctor and patient. With the growth, however, of compulsory sickness insurance systems and state medical programs elsewhere in the world the tendency has been inevitable to translate foreign systems to American shores.

In the meantime, medicine in the United States has been undergoing an evolution in its methods of administration and distribution. The evolution of the administration of medical care in the United States, since 1932, has been proceeding with increasing intensity. In the brief interval of ten years some twelve to fifteen million people have become insured against the cost of hospitalization, and a wide variety of plans have been adopted and are under investigation for extending medical service to people in the low income groups. Some may argue that ten years' delay was unnecessary and that even now the time is right to scrap our evolutionary process in favor of complete revolution in the administration of medical care. They would urge the establishment of a single governmental agency to be charged with the collection of funds from all of the people of the United States and the redistribution of those funds in the form of medical service. They are much more concerned with the administration of medical care than with the ministration of the sick.

The plans now widespread throughout the United States may be classified into definite categories. First, are the Blue Cross hospital plans, some of which already include as an integral part prepayment for medical care, including surgery and obstetrics; others of which are coincidental to or cooperative with medical and surgical care plans.

Second, are plans administered by large industries such as those of Mr. Kaiser in California and those of Endicott-Johnson, Sears Roebuck, Western Electric, National Cash Register and General Motors, which may be further subdivided into self-insurers and those who are insured by well established insurance companies or with mutual plans developed by state and county medical societies. Third, are the insurance prepayment plans developed by community groups through sick benefit associations, fraternal orders and similar agencies. Fourth, are the innumerable technics developed by farm groups with and without cooperation of government agencies. In some instances the medical care is administered by a physician who is the free choice of the patient; in other instances by an individual physician or groups of physicians specifically associated with the industry or insurance company, and in still other instances by groups of physicians who contract with the various industries or similar groups.

Obviously, the extent to which such plans fulfil the needs of the people they serve varies. The time has certainly not been sufficient to warrant any person in saying this, that or any other plan is ideal for the nation as a whole or even for the group it now serves. Many of these plans have themselves undergone continuous evolution from the day on which they were first established.

In its consideration of various plans for providing people with medical care, the American Medical Association, through its House of Delegates which speaks for the organization in matters of policy, has recommended that the quality of medical service is paramount and that all of the conditions associated with the administration of medical service must be examined with relation to their effect on the quality and sufficiency of such service. An attempt must be made to prevent the selfish encroachment of politics, either within or without the medical profession; the selfish encroachment of industry which believes the price of the service is above the quality and extent of the service; above the encroachment of public health workers, social workers, economists or other administrative specialists who would rather see the system running than concern themselves with the effects of the system on the health and the life, and the philosophy, and the happiness, and the future of the people who are handled by the medical machine.

Intelligent planning is the mark of intelligent men. Unbiased, honest consideration and evaluation of the experiments now going on will yield more and more information as to the criteria which should govern the ideal form of medical service for various areas and various communities. Considerations by governmental and other bodies in various countries are gradually leading to conclusions much like those that have here been ventured. There are areas in which only full-time salaried physicians can be available to provide medical care; there are other areas in which a multiplicity of competent practitioners and specialists makes possible free choice of doctor and hospital and the inclusion in the service of all medical equipment; there are still other areas in which group medical practice under conditions which force the group to function under the ethical principles and ideals that make this form of practice desirable may be the best answer to the problem.

The question has not been abandoned by the physicians of this country. They have not been too conservative in their approach to these problems. They have merely applied the same scientific study that would be applied to any serious problem in the research laboratory or the hospital.

Research under our present system has thrived in America far more than in any other country of the world. Today each of our great pharmaceutical industries and the

majority of our smaller ones have departments devoted to research. Our great universities and our research institutes surpass in medicine what is available anywhere else in the world. By restrictive taxation, by peculiar rulings of courts or by unfortunate legislative procedures such research may be congealed into ineptitude. Research under governmental auspices as now carried on in national institutes of health and in the agencies under Army and Navy control represent a considerable contribution, but limitation of research to such agencies would be devastating to progress. Competition in research is a stimulating factor whose importance cannot be doubted.

The standards of living of the people of the United States are generally recognized as the best in the world. Granting a shortage of the benefits of this standard of living for many of our population, the problem concerned is not how to give less to all but rather how to give more to all. Apparently many of the deficiencies in distribution of medical service result from improvidence of persons in the low income groups and from careless evaluation of what is most necessary for life and the pursuit of happiness. The tendency to place the responsibility upon the worker and to limit that responsibility to local rather than federal control may well be fundamental in the maintenance of the American system of government. Doctors everywhere recognize that food, fuel, clothing and shelter are even more important in the prevention of disease than immunization and periodical physical examination. An attempt to build security against sickness by providing more care after the patient becomes ill rather than by overcoming the factors that lead to sickness is illogical and unscientific. This, nevertheless, is the actual proposal of many of the plans that have come from the planners.

MORRIS FISHBEIN, M.D.

EDITOR'S NOTE. Dr. Fishbein is well known to our readers as editor of the Journal of the American Medical Association and of Hygeia, the Health Magazine.

Floral Eponym (11)

BALDWINIA UNIFLORA-NUTTALL

WILLIAM BALDWIN (1779-1819) the son of a Quaker preacher was born in Chester County, Pennsylvania, March 27, 1779. He took a course of medical lectures in 1802, but when the lack of funds prevented his completing the course, he returned to Downingtown and there he became acquainted with Dr. Moses Marshall and Dr. Benjamin Smith Barton who made an enthusiastic botanist of him. Later, on account of his health, he sailed as ship's surgeon on a vessel bound for Canton. When he returned in 1806 he had enough money to complete his medical studies. He graduated in medicine from the University of Pennsylvania in 1807, and settled in Wilmington, Delaware. In 1811 he had to leave Wilmington on account of tuberculosis. He went to Georgia where he led an open air life studying the local flora. In 1812 Baldwin was requisitioned as a naval surgeon, serving at St. Mary's, Georgia. In 1816-17 he went on the frigate Constitution to South America to investigate the condition among the Spanish colonies and the "vegetable products". He died the following year while on an expedition with Major Long up the Missouri River.

Baldwinia uniflora is found on the borders of swamps from Virginia southward.

MEDICAL ASPECTS OF AIRCRAFT CARRIER WARFARE*

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It was Anacharsis in the year o00 B.C. who said, "There are three sorts of people: Those who are alive, those who are dead and those who are at sea". Today, this last category assumes far greater importance than it has at any time in the history of the world. With our many far flung battle fronts enormous numbers of men must first get there to fight and to do so they must go to sea. A great part of this responsibility falls upon the Navy, which must see that they get there, and get there safely. To do this the Navy must fight the enemy on the sea and in the air as well as on the land. To even attempt to describe the many phases of our task today is naturally quite impossible, even if I were qualified to do so.

By now this war has reached into every state, every city, and into every home. Some of you are already in the service and doubtless others will go before long. As medical men you are interested in knowing what those who are already in the service are doing. For my part I should like to tell you a few things that we in the Navy Medical Corps are doing to perform our mission of keeping as many men at as many guns as many days as possible.

But to do so, let me go back a few years. In 1775 John Paul Jones hoisted his Star and Rattlesnake flag to the masthead of the U. S. S. Alfred. On board this ship, to fight the British in the Atlantic, sailed the first American Naval Surgeon, Dr. Joseph Harrison. It was not until August 31, 1842, however, that the Bureau of Medicine and Surgery was established. With this beginning, the Medical Corps has expanded down through the years until today approximately 10,000 American doctors are now serving the Navy in every part of the globe. At the outbreak of hostilities in Europe there were less than 900 Medical Officers in the regular Navy, but foresight and planning begun shortly after the close of the first world war, paid off when we were called upon to meet the medical needs of our now rapidly expanding Navy. This was accomplished through the organization of the Naval Reserve Medical Corps, in which thousands of physicians in civil practice, throughout the country, were given commissions. It might seem that, measured in terms of ships, this is a lot of Medical Officers, but when one considers the number of hospitals and other activities at home as well as abroad, that have to be manned, even this number is not sufficient. In fact, today, the Navy is in urgent need of more Medical Officers to supply future demands of an adequate fleet to win this war.

Time will not permit me to relate to you all of the various duties our doctors in the Navy are performing today. Instead I should like to tell you of the doctor in a new and different kind of warfare never seen before, where aircraft carriers stand toe to toe, as it were, and slug it out with enemy aircraft carriers without ever seeing each other. Oftimes these carrier duels occur from 100 to 200 miles apart, yet they are deadly, and are never over until one or the other is sunk, or retires to lick its wounds. A short time ago I returned home after serving approximately 15 months on one of these large combatant carriers fighting the Japanese in the Pacific.

I am getting ahead of my story, so, once again, let me go back for some additional Naval aviation history and tell you of some of the experiences which were interesting to me. I hope they will be to you. It was in 1911 that the Navy first sprouted wings. On January 18 of that year Eugene Ely took off from San Francisco, California, in one of the few airplanes existent in those early days, and successfully landed on a temporary platform 125 feet long and 30 feet wide, built over the stern of the Battleship Pennsylvania. When he took off again, to land ashore, he had successfully completed the first landing and take off on a ship. Little came of this until after the last war. In 1921 the Navy again became interested and over-decked the Collier Jupiter from stem to stern and renamed her the Langley. She became our first aircraft carrier. On October 26, 1922, the first landings and take off were successfully completed. It was on this ship that nearly all of our senior aviators, many of whom are now commanding our carriers, cut their teeth—some of them literally. In fact, it may be said that this famous ship was the mother of our Naval avia-

*Address delivered by invitation at the annual meeting of the Medical Society of Virginia at Roanoke, October 25-27, 1943.

tion. In the spring of 1928 the U. S. S. Saratoga, into which had been built all of the things that had been learned by trial and error on board the Langley, stood out to sea to become our first modern aircraft carrier.

In 1926, in New York City, I reported for duty aboard the U. S. S. Pennsylvania, of which I have previously spoken. The platform on which Ely had landed had long since been removed, her name had been changed to the U. S. S. Pittsburgh and she was now headed for China. On arrival at Manila I joined another ship, the U. S. S. Canopus, which incidentally was sunk at Bataan in the early part of this war. Shortly after I reported on board we proceeded to Shanghai. It was here that I had my first glimpse of the Japanese Navy. Lying at anchor off the Bund were a number of low, black, business-like, men-of-war, flying the Jap flag. Were these the vessels that turned over when they were launched? Could these ships be a part of the Navy that we could lick in three weeks? I wondered.

Several weeks later we were in the harbor of Tsingtao. This Chinese city, in the province of Shantung, lay around the corner from Pekin. It so happened that at this time the armies of southern China were engaged in a civil war with the armies of northern China and were steadily pushing the latter army north in Shantung province. Suddenly one morning several Japanese men-of-war appeared off shore and landed a large number of troops to protect their interests in this province and to keep the forces of both armies out of the city. Japanese troops were everywhere and here for the first time I had a good look at our future enemy. They meant business and they looked the part. I wondered then if they would be a pushover if we should ever meet them in battle. If I had any such idea then I have long since changed my opinion.

In the summer of 1933 I joined the U. S. S. Saratoga. This was my first duty on an aircraft carrier and my first intimate association with Naval Aviation. It was to be an interesting and exciting two years. I shall never forget my first morning on the flight deck to watch the planes take off and land. We had put to sea, and suddenly it seemed, high in the sky there appeared dozens of planes flying in formation. This was her air group, composed of fighters, scouts, dive bombers and torpedo planes. As I watched, the ship changed course, and picking up speed turned into the wind, for planes must take off and land directly into the wind. While this was taking place the formations of planes were breaking up preparatory to landing on board. The first plane now was approaching the flight deck from the stern, and with the aid of signals given by the landing officer, dropped neatly on the deck while making from 60 to 70 miles an hour and with the aid of the arresting gear, came to a sudden stop within a few feet.

But a word about the ship. Although she displaced 33 thousand tons she could make approximately 40 miles an hour through the water. In peace time she had a complement of about 2,000 officers and men. There were five doctors and two dentists on board. Of the doctors, one was a general surgeon, one an eye, ear, nose, and throat specialist, another an internist. Two flight surgeons rounded out the group. The hospital spaces, called the sick bay aboard ship, were quite large. There was a well equipped operating room, a ward capable of caring for many patients, an isolation ward for contagious diseases, a well stocked pharmacy, a laboratory, a special examining room and a dressing room. There were also offices for the medical officers as well as one where records and files were kept. This indeed was an adequate hospital in every respect. In view of the intense amount of activity which goes on aboard one of these ships, it is not surprising that we were kept fairly busy with one thing or another.

I listened to many discussion on the subject of what life on a carrier in time of war would be. It was said that she would be extremely vulnerable because armor must be sacrificed for speed. Also the thousands of gallons of high octane gasoline, large numbers of bombs and torpedoes carried for the planes, as well as the ships own ammunition, would make her a veritable floating powder keg. It was not pleasant to think of what a well placed enemy bomb or shell might do. It wasn't until years later that I was to find out.

Once again in 1939 I went to sea in an aircraft carrier. This time it was in the U. S. S. Langley of which I have previously spoken as being the first of her kind. Two years later I left her in Manila. The outbreak of the war found her in the Java Sea where she was to go down fighting under a heavy Japanese dive bombing attack, ending her long and

glorious career. Thus having had two previous cruises on this particular type of ship, I was not surprised when in the early Spring of 1942, I was again ordered to a carrier.

Out of this present conflict a new kind of sea warfare has sprung. One is accustomed to think of sea battles as a line of battleships, steaming along, firing at the ships of the enemy in a similar line. Now the carrier task forces had come into being. One or more carriers surrounded by a protecting force of swift moving battleships, cruisers, and destroyers, move out to meet the enemy. When two task forces of this type meet, it is usually only the pilots of the planes who contact the opposing surface ships. The ships themselves are usually too far apart to be visible to each other. It was this type of battle in which our task forces met those of the Japanese in the Coral Sea, at Midway, at Santa Cruz and in the Solomons. Task forces of this type have also been used to raid several Japanese held islands in the Pacific and even Tokyo itself.

Each battle fought represents long hours, days, yes, even years of preparation. To do this every department of the ship's organization, the gunnery department, the medical department and so on, must see that nothing is left undone to fight at a moment's notice. Let us take a look at what the medical department must do for instance. What if a bomb or torpedo should wreck the sick bay. This must be anticipated. Therefore, a number of dressing stations and satellite first aid stations are set up throughout the ship. These are well equipped to take care of casualties within its area. Emergency operating rooms, with sterile supplies and instruments, must be ready to handle surgical cases on short notice. An adequate number of units of plasma must be available throughout the ship. Stretchers for handling the wounded must be plentiful and of several types. We have found the Stokes stretcher, which is manufactured of reinforced wire mesh, to be most satisfactory on board ship. In this, a patient can be lashed in and carried up and down ladders, lowered from the super-structure or even transferred from one ship to another by means of lines and pulleys. Another valuable type is made of heavy canvas with a long zipper up the front and fits much like a suit. This type, with the aid of a rope attached to the upper end, can be used to pull patients up through small hatches from below decks.

Fresh water must be stored at dressing stations for the injured. Anesthetics, tanks of oxygen, morphine, agents for the treatment of burns, and all types of splints must be provided and well dispersed. Dozens of first aid boxes must be equipped and scattered the length and breadth as well as from the top to the bottom of the ship. Large portable metal lockers containing medical supplies which can be transported from compartment to compartment must be available should dressing stations be destroyed. Last, but not least, there is the medical department personnel which has to be at the peak of efficiency. All doctors, dentists, and hospital corpsmen must be thoroughly familiar with all forms of first aid, infusion of plasma and proper methods of transporting the injured. Bandsmen were trained to act as stretcher bearers and administer first aid. Even the chaplain came in for his share of instruction. Long hours were spent in drawing up plans for evacuation of the injured from bombed and burning areas as well as procedures for getting them off the ship should we have to abandon her.

But let me give you a brief picture of what life is like on board a fighting ship in time of war. In the Pacific the days are hot and humid. No relief is obtained at night as the ship must be buttoned up tight at sunset so that no telltale light can give away our presence to the enemy lurking in the dark. As a result one literally stews in his own sweat most of the time. Prickly heat and skin diseases only add to the discomfort. Fresh water, though usually ample, must be conserved, and bathing at times is somewhat restricted. Food for the most part is excellent and of sufficient quantity, except that after long weeks and even months at sea, dried and canned foods must be resorted to. Alerts are frequent. Many times in the middle of the night we were almost thrown from our bunks when the ship turned sharply to avoid a submarine or torpedo. The under water explosions of depth charges shook the ship and became familiar occurrences to us. Sometimes we would go up on deck to watch planes and destroyers drop their messengers of death on some nearby submarine or perhaps to see our fighters shoot down an enemy patrol plane which had ventured too close. On these occasions word was usually passed so that as many as were able could watch the fun.

The questions most frequently asked of anyone

who has been in actual combat are "What is it like?" and "How do you feel?". Certainly whole volumes could be written on each of these questions. However, I should like to tell you, in as few words as possible, some of the things that I saw and felt in one of these battles at sea between one of our aircraft task forces and one of the Japanese.

We were at sea when we received reports that the enemy had been sighted in the area. Immediately our search planes were made ready to take off, for the advantage is on the side of the force which locates the enemy without its own forces being discovered. If we could hit their carriers while the planes were still on deck, or even taking off, their air striking force might be completely, or at least partially, destroyed and our chances of getting hit, greatly reduced. While our own planes were taking off a large enemy patrol plane was sighted. A fighter shot it down. We saw it hit the water and burn. There was little comfort in this for us as he had already given our position to his own forces by radio.

We were now at general quarters but I took a last look around to see that the medical department was ready in all respects. While doing this I could hear the remainder of our planes taking off. This meant the enemy had been located and our planes with their bombs and torpedoes were on their way. I had hardly more than returned to my own station when suddenly a boatswain's whistle sounded over the loud speaker system. There were a few seconds of silence. Then a voice said "Now hear this. There is a large group of enemy planes headed for the ship. All hands put on steel helmets". The next few minutes were the longest I ever spent. Down below, unable to see what was going on, I did a lot of thinking, and watching the reactions of the men about me. I knew that, even though there were other ships around us, the carrier is the prize and must be destroyed first, for in doing so the air coverage of the entire force is lost. This meant of course the planes would concentrate on us first, and if there were upwards of a hundred planes, it was only a question of how many times we would get hit. I wondered how they would feel and where they would hit. I looked at the faces about me. They were tense and anxious but I saw no outward signs of fear or excitement. Some were quiet, others talked to keep up their spirits. A few tried to read. I saw some bibles. I am sure that many prayed.

We were suddenly jarred out of whatever thoughts we had by a booming voice over the loud speaker. "All hands stand by to repel air attack". Then a minute or two and, Wham! The whole ship shook. A large anti-aircraft gun had opened up. Another and another answered. Then the rapid fire guns joined in. Now they were all firing at once. The noise was terrific. The ship, running at high speed, twisting and turning to dodge bombs and torpedoes, laid so far over on her side in the high speed turns that I thought she would turn over. Then came a new sensation, a feeling that the ship was being lifted out of the water. She would hardly settle back again before it would be repeated over and over again. These were "near misses" hitting alongside or near the ship. Such a shaking and jarring I had never experienced before. It was almost impossible to stand up, so we sat or lay on the deck. I looked from face to face. No word was being spoken now. To have been outside where you could see the bomb that was going to get you would have been much better than down below waiting for the next one to hit and wondering whose name was on it. Direct bomb hits on a ship are sometimes difficult to feel due to so much other noise and the motion of the ship. I was not sure that we had been hit until one hit so close it removed all doubt for it turned out to be not over thirty feet away. We felt there must be casualties, so grabbing a first aid pouch we were on our way. There was no time now to wonder where the next bomb would fall.

The first casualty I saw was a young seaman with his leg blown off. While he was being taken care of others were coming in. Stretcher bearers were rushing here and there. Even injured men helped other injured men. I saw one corpsman with his eye destroyed and his face bloody giving first aid. There was no panic, no hysterics, no crying out. Injured men lay quiet. Their most frequent request was for a drink of water or a cigarette. Many asked that their shipmate be taken care of first or that they be allowed to get back in the fight.

Most cases received ½ grain of morphine by syrette. Wounds were frosted with sulfonamide powder. Bleeding was controlled with sterile dressings and pressure bandages. Tourniquets were

rarely required or used. Burns constituted a large percentage of our cases. These were also treated with sulfonamide powder either in ointment, emulsion or in the dry form. Plasma was freely given, often under difficult circumstances, and saved many lives.

The guns had now ceased their firing. The last Jap plane had been shot down, but we were not yet out of danger. There were fires to be controlled and damage to be repaired. The ship was filled with a mixture of odors of bombs, of smoke from the fires, and the smell of blood. Bodies had to be removed to secluded areas. The injured had to be collected and evacuated from the dressing stations to the sick bay. A bomb exploding beside the ship had flooded the fresh water tanks with sea water. Fresh water collected in emergency tanks at battle dressing stations was rationed and canned fruit juices were issued until repairs could be made. The main operating room was found to be out of commission so an emergency operating room was established until the other could be restored.

Meanwhile the ship was being searched for additional dead and injured. When this had been completed a careful survey of all patients was made and selected cases prepared for operation. Burns and minor injuries were redressed. All wounded personnel were given one-half c.c. of tetanus toxoid. Most of them received sulfonamide by mouth.

There were several other types of casualties with which we had to contend that I have failed to mention. Of these, the blast injuries were the most puzzling. Some of these cases, found dead, showed no external evidence of injury. Others, still living, failed to respond and died within a short period. Smoke inhalation by men trapped in burning areas caused us considerable concern. Wounds, caused by tracer bullets coated with phosphorus, produced considerable damage to surrounding tissues.

In view of the fact that we were at sea, it was several days before we were able to transfer our casualties to a Mobile Hospital located on an island in the Pacific. By this time all cases were in good shape. All repair work had been completed. Casts had been applied. Infections had been few, and thanks to plasma and sulfa drugs, our mortality had been low.

We buried our dead at sea. Every effort was taken to correctly identify the remains of each man before they were enclosed in canvas and weighted. Full military honors were accorded each body. Funeral services conducted by the chaplain in the presence of officers and crew made a profound impression on us all. I watched many faces as the bodies of our shipmates were committed to the sea, and saw their eyes narrow and their jaws set firm. In that great silence I knew what they were thinking.

Russian War Relief.

The Board of Directors of Russian War Relief has adopted a 21 million dollar relief program for 1944, which will continue to be administered in a manner to promote good Soviet-American relations.

Medical supplies and clothing will comprise the bulk of purchased goods. Gifts in kind for which collections will continue on a nationwide basis include used clothing, vegetable seed, watches, medical textbooks and instruments. A new campaign will be launched soon for a minimum of 3,000,000 family utility kits. Manufacture of new clothing by volunteer sewing and knitting groups will continue.

Russian War Relief sends no money out of the country. All its relief goods are transported in Russian ships by the Soviet government.

THE MECHANISM OF ESOPHAGEAL VOICE FOLLOWING LARYNGECTOMY*

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When discussing the devolepment of speech of a laryngectomized person, the phrase, "esophageal voice", is used with reservation. While the esophagus is the most essential organ involved in producing this form of speech, there are other important articulate units which enter into this mechanism.

Esophageal speech is not entirely new, it has been in a state of evolution for several years. The renewed interest in this phase of rehabilitation in conjunction with improved laryngectomy technic, has been a tremendous factor in aiding these patients to develop a type of speech independent of artificial devices.

The laity and the profession are thoroughly familiar with the handicaps imposed upon the blind and the deaf, but few have had the opportunity to give much thought to the rehabilitation of the patient who has lost his larynx in an effort to survive cancer. Total removal of the larynx is a dreadful handicap and it is difficult to appreciate the enormous readjustments that are required of the patient.

The laryngectomized patient is denied the pleasure of breathing through the nose and throat, which in turn impairs the sense of smell and the enjoyment of food. The larynx is not only the organ of sound, but it contributes to the mechanism of swallowing. The total and sudden loss of voice associated with temporary impairment of swallowing immediately after laryngectomy is often a very disturbing mental factor, and this is especially so, unless the physician can assure the patient that he has a reasonable chance to acquire another form of speech which may be understood.

Before the advent of esophageal speech a laryngectomized person communicated either by pencil and pad, pseudowhisper, or artificial devise. All of these methods are discouraging, even though the artificial larynx is used occasionally with fair success. The chief objections to this device are that the tones do not simulate the human voice. The stentorian sound attracts attention and causes embarrassment to the sensitive. In spite of its mechanical perfection, adjustments must be made frequently, and then, loss of function is not uncommon immediately before the patient attempts to speak. For these reasons the artificial larynx should be reserved for those who cannot or will not learn the mechanism of esophageal speech.

When possible all patients should be encouraged to learn the art of esophageal voice. This form of

Fig. 1. Roentgenogram illustrating with barium the esophageal mouth of a laryngectomized patient who has a distinct esophageal voice.

speech when thoroughly mastered helps to identify the patient's personality and gives encouragement. If the speech was clear and well spoken before operation, the esophageal voice is more likely to follow this trend. This type of speech also has the distinct advantage of producing a favorable psychological effect upon these patients, which is so important in maintaining a healthy mental attitude during this difficult period.

It is said by some observers that the intellectual

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*Read before the Virginia Society of Ophtholmology and Otolaryngology, at Lynchburg, May, 15, 1943.

Fig. 2. This film outlines the entrance of an esophagus of a laryngectomized patient immediately prior to speaking. Note the narrowed appearance.

Fig. 4. This patient's roentgenogram shows a controlled air reservoir in upper portion of esophagus.

Fig. 3. This film depicts multiple air pockets in the esophagus prior to talking.

Fig. 5. A moderately distended stomach, probably used in conjunction with esophageal air supply for speaking.

Fig. 6. This film illustrates a patient's stomach enormously distended with air immediately before attempting esophageal speech.

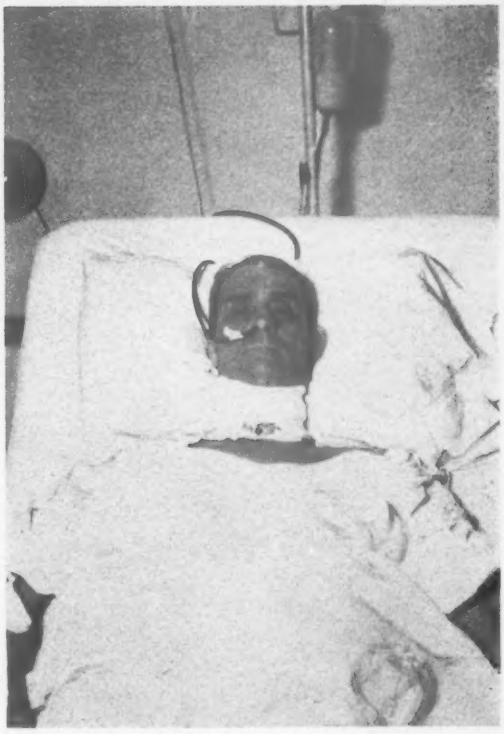

Fig. 8. Mr. V. L. P., returned to work soon after leaving the hospital. Instruction and practice were irregular, yet he can be understood by his fellow workers.

Fig. 7. While Mr. E. H. T. is relatively young and alert, we could never develop in him sufficient confidence to inspire practice.

Fig. 9. This negro had his larynx removed for carcinoma. He developed an excellent esophageal voice in nine months.

and ignorant lend themselves to the mastery of this type of speech better than those persons of average intellect. Why this is true, it is not stated. However, one thing does seem certain, and that is, it is necessary to create in the patient an optimistic attitude or a confidence in himself, before he undertakes the development of this form of voice. He must be encouraged and made to feel that he has triumphed in his operation, and that the next goal to attain is articulate speech. When this objective is realized, much has been accomplished and the foundation is laid for practice. There are patients, however, who occasionally develop a voice of quality with little or no instruction. When this occurs, you may be certain that the particular individual is endowed with unusual aptitude and determination.

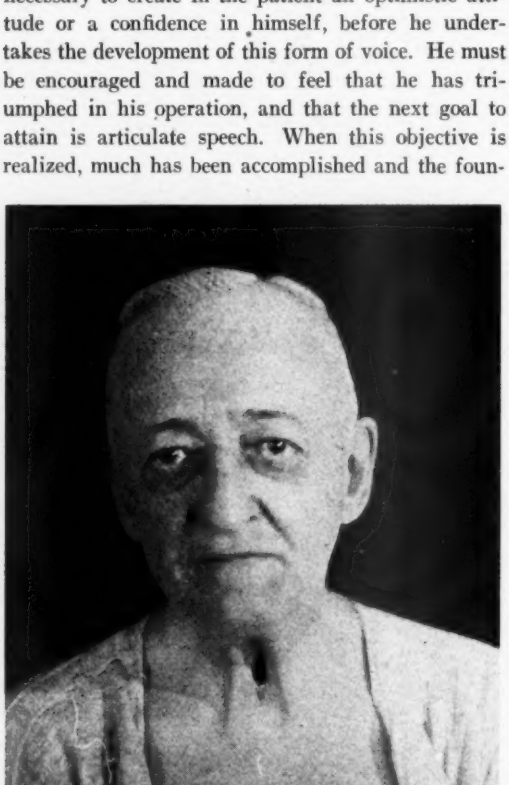

Fig. 10. Mr. K. O. R., had an extensive laryngeal malignancy requiring laryngectomy. He is one of our best students. He speaks very distinctly with his esophagus.

We all know that the production of speech in a normal person requires the mechanism of three units, i. e., the lungs, the larynx, and the articulate group, which includes the tongue, cheeks, palate and lips. The latter structure mold the sounds into words as the column of air and tones are formed by the lungs and larynx respectively. So, when we consider teaching a laryngectomized person to talk it may seem complicated because two important units of speech have been lost. The larynx has been totally removed and the current of air that formerly passed through the throat no longer enters the pharynx, but is now directed through the exterior of the neck.

While the esophagus has never before functioned in the production of speech, it now must assume the role previously taken by the lungs and larynx combined. In other words, this organ must play the part of the lung bellows and function in part as vocal cords as well. It is improbable that the esophagus acts as an air reservoir alone, because the hypopharynx and stomach have been frequently shown to be associated in this mechanism. This has been definitely demonstrated by Stern and others in a series of roentgenologic studies.

The actual mechanism of esophageal speech is primarily dependent upon the act of inspirating, or swallowing air and maintaining it, either in the stomach, esophagus or hypopharynx as the individual may elect. Then, under voluntary control, the air is utilized in proportional amounts at will. This, of course, must be synchronized with contractions of the esophageal mouth and hypopharynx. By persistent speech and inspiratory gymnastics the esophageal sphincter gradually assumes the function of a normal laryngeal glottis, and eventually develops specialized tone vibrations.

When evaluating the enormous amount of adjustment and re-education these patients must undergo, one should not omit the important part that the psychic and innervation phase may play in perfecting this speech. The tenth nerve supplies the esophagus, and it is well known that this nerve is closely associated with the parasympathetic nervous system. We are not certain what effect the postoperative esophageal pattern may have upon the formation of tones. Some authorities have suggested that the least amount of esophageal wall removed during the operation, the better is the patient's chance for clear speech. No tissue, of course, should be unnecessarily sacrificed, yet there can be no conservation of tissue adjacent to a malignant lesion. It does seem possible that a vertical closure of the esophageal opening may lend itself to a better sphincteric action of the cricopharyngeous muscle. When feasible close dissection should be preferable

in order to conserve esophageal branches of the superior and inferior laryngeal nerves.

There are many individual technics in the development of a pseudo-voice. Some patients find it an advantage to inspire frequently small quantities of air into the upper esophagus and hypopharynx when talking. Others may feel that swallowing air in large gulps, even to the point of using their stomach as a reservoir, is more satisfactory for their individual mechanism.

The scope of this paper does not allow a discussion of the many problems involved in developing a pseudo-voice in different persons, because no uniform instruction can be applied to all. The patient should be taught the fundamental methods of obtaining air and its voluntary control in association with the formation of letters, syllables, words and sentences.

Re-education of the psychic phenomenon is very difficult in some patients, whereas, others may encounter difficulty in disassociating reflex respiratory movements from this newer mechanism. Beginners are instructed to close the tracheal opening with their finger and then attempt to insufflate air into the throat during the act of chest expansion. Later, however, the need of respiration in the development of voice is negligible under conditions existing in a laryngectomized person. Occasionally a patient is greatly hindered at the beginning because of his inability to disassociate respiratory movements from his speech efforts. The involuntary phenomenon continues to function and master the speech complex in its old way. During this fight for control, the patient may become so confused and fatigued that further efforts may seem useless. The patient must be told of these hazards and be encouraged to continue practice, though in a more limited degree.

It is always best to begin instruction six to eight weeks after operation. This frequently prevents the adoption of faulty whispering methods that are difficult to discard by the nervous and sensitive person. Loss of speech too long after operation tends to depress the patient and lessens the aptitude for learning. Most of these persons are elderly, and their ability to acquire an innovation is less acute than formerly. A laryngectomized person who has accomplished esophageal speech, is often the greatest assistance to a beginner. He immediately inspires confidence, and convinces the patient that speech is no longer denied those who have no larynx, if he is willing to learn.

800 Professional Building.

Neuropsychiatry's Importance in Armed Forces Is Emphasized.

A soldier suffering from what would ordinarily be called a nervous breakdown, a condition classified as a neuropsychiatric disorder, was punished quite unnecessarily by a general. This incident serves to focus attention again on the exceeding importance of proper organization of neuropsychiatry in the medical services so that the most possible can be done to prevent situations of this type in the future. With the beginning of the Selective Service examinations the importance of preliminary neuropsychiatric study became clear. Just recently the Selective Service Administration has improved its technic for this purpose. Originally it was contemplated that great numbers of neuropsychiatrists would be associated with the examinations of men for military service especially on the induction boards and that sufficient time would be allowed for such study. The speed of recruitment and the lack of sufficient personnel, as well as the failure to develop dependable technics, combined to prevent the type of study that needs to be made if any considerable number of potential cases is to be eliminated from admission to the service. Up to April 1943 almost half a million men had been rejected for psychiatric reasons. About one-third of all casualties now being returned from overseas are neuropsychiatric. The strain of this war affects leaders, with the added stress of leadership, even more than it does the men in subordinate rank. Already it is clear that constant attendance by qualified neuropsychiatrists may serve to detect potential breakdown among aviators and to restore men in such condition to active service far more quickly than would otherwise be the case. * * * Since neuropsychiatric breakdown now constitutes a leading cause of disability, resulting in the loss of services of tremendous numbers of men both in the Army and in the Navy, the Secretaries of War and of Navy might well consider whether neuropsychiatry should be a major division in the organization of the administration of the Medical Departments of the Army, the Navy and the Air Forces. (*Editorial, J.A.M.A., December 4, 1943.*)

CLINICAL MANAGEMENT OF LOBAR PNEUMONIA*

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Since the introduction of the sulfonamide drugs as specific agents in the treatment of pneumococcic pneumonia the reduction in the mortality rate achieved by chemotherapy and the further subsequent refinement in the newer compounds in the group has put the therapy of the disease on a greatly improved and more stable basis. The physician now has at his disposal a therapeutic agent in which he places justifiable confidence for a successful recovery in 87-91 per cent of the cases.[6] The remarkable specificity of the newer sulfonamides (sulfathiazole and sulfadiazine) for the pneumococcus group in general has produced a tendency to condense the treatment of all types into merely giving the patient the drug on a more or less general scale of dosage based on an "average" adult of 150 lbs. body weight. The administration of the drug is usually begun immediately following the establishment of the diagnosis of "lobar pneumonia" on a reasonably certain basis. This generally accepted concept of the treatment of the disease has been further fostered by the hypothesis that in the use of chemotherapy alone there is no particular advantage in determining the type pneumococcus present with possibly one or two exceptions in so far as concerns the specific effect of the drug on the organism.[3a]

The experiences encountered at this hospital in the treatment of lobar pneumonia over the past 6 months and presented in this small series of cases have led us to question the completeness as well as the over all advantages of this concept of therapeutic management from several viewpoints. It should be made clear that there is no question raised concerning the validity of the uses and effects of the drugs mentioned above. (For a recent comprehensive summarization of the present accepted views concerning the sulfonamides the reader is referred to "Sulfanilamide and Related Compounds" by Wesley W. Spink, M.D.[3]) The particular considerations raised by our own experience in relation to the completeness of the present therapeutic concept are:

1. Determination of the type pneumococcus present.
   a. Unless the type of the organism is known specific serum cannot be used.
   b. If intolerance or untoward reaction to the drug develops requiring cessation of chemotherapy, knowledge of the type becomes important in relation to other forms of specific therapy.
2. The amount of the drug required in individual doses varies greatly among patients having the same body weight and skeletal development.
3. The concentration of the drug in the blood is the preferable guide to the amount of total as well as individual dosage and should be held at a sufficiently high level to:
   a. Secure prompt and rapid therapeutic effect.
   b. Prevent relapse of the infection following the initial clinical improvement.
   c. Offset the possible development of "Fastness to the Drug" on the part of the organism through insufficient quantities of the drug.[3b]

Consideration was also given to the possibility that the use of the comparatively higher levels of the blood sulfonamide might reflect itself in a lower incidence of pulmonary complications such as unresolved pneumonia, empyema, encapsulated fluid, pleural effusion, etc. Likewise, it was hoped that this would also show a further beneficial effect on the mortality rate.

While the terms lobar pneumonia and pneumococcic pneumonia are synonymous in most cases, a small group of cases are non-pneumococcic in origin as is pointed out by Lord *et al.*[1a] that 4 per cent of these cases are caused by organisms other than the pneumococcus.

Lobar Pneumonia	96%	Pneumococcus (Including all 32 types)
	4%	Influenza Bacillus
		Friedlander's Bacillus
		Streptococcus
		Staphylococcus

In this series of cases comprising a total of 91 cases of lobar pneumonia from October 1, 1942, to March 15, 1943, there were 5 cases of non-pneumococcic variety (Table I). No specific organisms

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were isolated in any of the 5 on bacteriological study. Three of these cases showed clinical similarity to the influenzal type of lobar pneumonia[2a]: high temperatures (102.5-104) with disproportionately slow pulse rates (100-110), only slight acceleration of the respiratory rates (24-30), low toxicity, normal white cell counts or a relative leucocytosis of granulocytes. The two remaining cases were of undetermined etiology (Virus ?) accompanied by moderate leucocytosis, elevation of the temperature, pulse and respiratory rates, with both physical and x-ray evidences of lobar consolidation. All 5 cases ended in spontaneous recovery after a chronic course and slow clearance of the pneumonic process from the lungs. All of them developed lobar pneumonias subsequent to mild or

TABLE I
LOBAR PNEUMONIA
(read horizontal divisions from left to right)

Pneumococcus Type	I	Pneumococcic Pneumonia II	III	IV	VII	VIII	IX	XII	XIV	XVII	XVIII	XIX	XXII	Total	← Pneumococcic Pneumonia →	Oct. 1, 1942-March 15, 1943
Number of Cases	9	6	2	1	12	1	2	1	2	2	1	2	3	44		3 typed cases prior to Jan. 1, 1943 41 typed cases Jan. 1-March 15, 1943
Sex | Age | Race																Mortality rate typed cases - 2.27%
M | 20-45 Av=26 | W&B		Pneumococcic Pneumonia Specific Type Undetermined												42	← →	Mortality rate total cases - 1.16%
Sputum Positive No Pneumonia	1				3	1						1	1	(7)		These cases showed no pulmonary involvement. Classed as Acute Upper Resp. Infections.

	Non-Pneumococcic Pneumonia			
Lobar Pneumonia Non Pneumococcic No Specific Organism (see text) No. cases	Influenzal Type	Non Influenzal Type	5	1 Fatal case Type XIV - Not seen until late in course of disease. 4 Untyped Pneumococcoc Pn. prior to Jan. 1, 1943. 38 Untyped Pneumococcic Pn. Jan. 1-Mar. 15, 1943.
	3	2		

Lobar Pneumonia No. of cases	Oct. 1, 1941-Mar. 15, 1942 29	Oct. 1, 1942-Mar. 15, 1943 91	Typing records for 1941-1942 not available.
Broncho-Pneumonia Primary No. of cases	12	4	
Atypical Pneumonia Primary No. of cases	Statistics not available in form of final diagnosis for this period	Oct. 1-Dec 31 1942: 248 Jan. 1-March 15 1943: 206	No remarkable change in incidence with onset of winter weather.

Positive Blood Cultures in present series	Pneumococcus Type I	II	III	XII	XIV	XXXII	Total	Neg Cult	Total
	1				1	1	3	67	70

Specific serum Administered No. of cases	I	II	III	XII	XIV	XXXII	Total
	1	2	2	1			6

Sulfathiazole stopped on 3 cases due to sudden decrease in fluid output. On 2 of these serum treatment instituted. Remaining case made spontaneous recovery. Drug stopped on case of Hematuria for 36 hrs. and then gradually started again without recurrence.

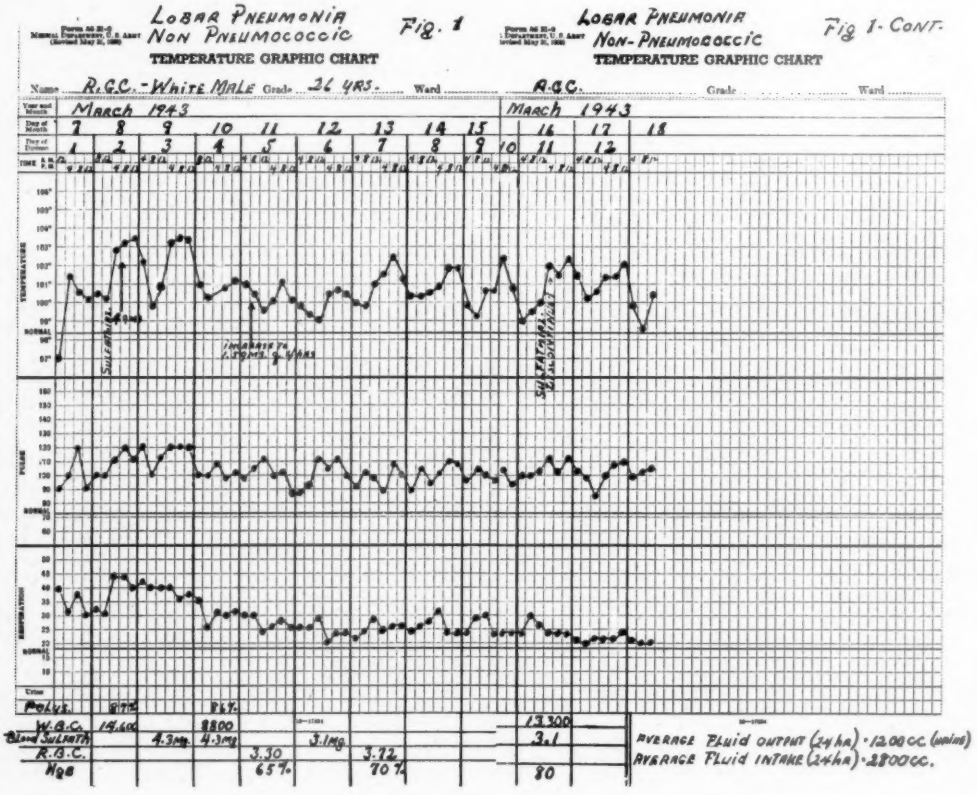
Case of Leucopenia noted on sulfathiazole administration. Count fell from 7,000 to 3,250 on 5th day of therapy. Blood sulfathiazole reported 3.4 mg. %.

Serum Administration - 100000 units

Type I-White male over 40 yrs. of age	Serum administration combined with Chemotherapy at start.
Type III-Combined therapy due to specific type present	
Type III-Same as above	
Type I - Sulfathiazole stopped on 3rd day due to sudden decrease in output	Serum substituted for sulfathiazole in Type I and VII cases.
Type II-Unresolved Pneumonia? Serum given on 6th day	
Type VII-Relapse with spread of process on 12th day	

8 cases received sulfadiazine exclusively. 7 cases sulfadiazine substituted for sulfathiazole.

moderately severe upper respiratory infections of a week or longer time period. Sulfathiazole therapy exerted no apparent effect on either of these 2 types and was discontinued after several days' trial. Figure 1 illustrates this negative therapeutic response in one of the two above cases of non-influenzal type. Figure 1a shows by contrast the prompt clinical



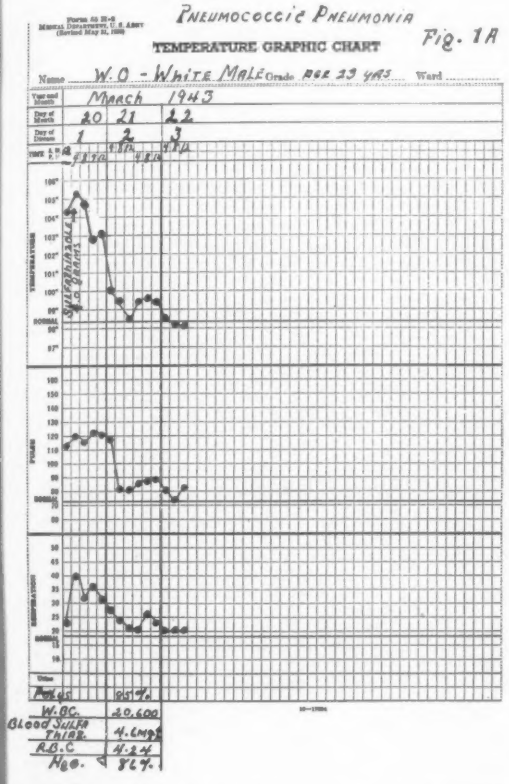
response to sulfathiazole within a period of 24 hours in a case of pneumococcic pneumonia (pneumococci present in sputum but typing unsuccessful).

From the period of October 1, 1942, to March 1, 1943, a total of 91 cases of lobar pneumonia were seen (Table I). Over the same period of time the previous year, 1941-1942, a total of 29 cases were diagnosed as lobar pneumonia by clinical, laboratory and x-ray examination. The difference in the number of cases reveals a pronounced increase in incidence for this locality for the present year (1942-1943). The sudden increase in pneumococcic pneumonias in January following the advent of cold, wet weather beginning the latter part of December rise in incidence with the arrival of wet, winter weather.

From a study of 3,713 cases collected from the literature Heffron states that the most common types of pneumococci in adult lobar pneumonias are types 1, 3, 2, 5, 8, 7, 4, and 14.[1b] As shown in Table I the most common types in this particular series of cases and geographical locality were Types 1, 2, and 7, with a scattered distribution in the remaining types (Table I).

Approximately one-half of the pneumococcic pneumonias were reported as to the specific type of pneumococcus present. All typings were performed by the Neufeld method.[9] Those upon which the spe-

cific type of organism could not be determined showed a predominance of pneumococci in the sputum on bacteriological study. These patients were classed as pneumococcic pneumonias, because, in addition to the presence of the specific organism, the lung fields showed a lobar consolidation to both x-ray and physical examination of the chest; the sputum grossly presented the characteristics of



that seen in this type of pneumonia (a brownish orange or "prune juice" appearance at certain stages of the infection); and other similar clinical features such as toxicity and leucocyte response; and, finally, a prompt response in 24-48 hours to sulfonamide therapy. The failure to type the organism successfully in these cases could not be definitely ascertained but was thought to be due to either the administration of the drug in a relatively large initial dose prior to the obtaining of proper material for typing or possibly to some variation in capsular polysaccharide. What effect, if any, the drug may exert on the organism directly or indirectly in this respect is not known. Lord, Robinson and Heffron in their text (1940) state that no such effect had been shown conclusively[1c] but in this present series the majority of cases that could not be typed occurred in patients who had received drug therapy before the first typing was attempted. Whether or not this postulate in this particular group was more apparent than real cannot be said until a large number of cases are available with control methods applied. Other reasons for the failure to determine specific type were thought to be due to:

1. Sputum specimen obtained did not represent bronchial secretion.
2. Too few organisms in sputum at the particular stage of the disease at which specimen obtained (mouse passage was not done on specimens due to lack of animals for this purpose in this type laboratory).
3. Some inherent abnormality or variation in the individual organism.

It is seen in Table I that 7 cases were reported as having specific types of pneumococci present in the sputum on study but who ran acute upper respiratory infections only, without developing pneumonic consolidations or infiltrations in the lung fields. All of these patients made spontaneous recoveries without receiving sulfonamide therapy and were not classed as pneumonias.

We have considered it highly important to make every effort to determine the type of pneumococcus present in a pneumonic process even though this is generally of only academic interest in relation to the specific effect of the sulfonamide itself.[3a] The importance of the determination of the pneumococcus type lies in connection with:

1. Possible use of specific serum either alone or in conjunction with the drug.
2. Possible use of specific serum in the treatment of complications or sequelae of the pulmonary infection.

In the former, specific serum may be indicated if the drug is not tolerated due to untoward or toxic systemic response (blood, blood forming tissues, renal system, skin, G.I. tract, etc.), especially in regard to possible secondary blood dyscrasia, renal complications and in decrease of fluid output.[4] The drug was discontinued in three instances of the above series due to sudden decrease of the urinary output to below 1,000 cc. for 24 hr. period and in one case of reported gross hematuria. In the former by

immediate cessation of the drug and with parenteral administration of fluids and hypertonic glucose solution intravenously, adequate fluid output was restored without further complication. Two of these cases were placed on specific serum treatment with cessation of sulfonamide therapy on 3-4 day of disease. The remaining case made a spontaneous recovery after cessation of drug on the fifth day of disease. In the case of gross hematuria the drug was stopped for 24 hrs., then begun again cautiously in small dosage with close observation. No further blood appeared in urine. Fluid output was adequate. Satisfactory recovery was made.

To combat the infection, maintain fluid balance and especially to secure adequate fluid output, a fluid intake of 3,000 cc. of fluid per 24 hrs. was ordered on all patients with pneumococcic pneumonia and record was made of this on graphic chart. All four of the above patients showed sulfathiazole crystals in the urine.

One blood dyscrasia secondary to administration of sulfathiazole was noted in this series. There was a sudden decrease in total number of leucocytes from 7,000 to 3,250 on the 4th day of sulfathiazole therapy in a case of non-pneumococcic lobar pneumonia of the left lower lobe. The concentration of blood sulfathiazole at this time was reported as 3.4 mg. per cent. The white count had not been elevated and response clinically to the drug was absent. With immediate cessation of the sulfonamide the white blood counts on the following two days were 5,400 and 9,100 respectively. The cells of the granulocytic series were not apparently reduced, being present in all counts from 60-70 per cent (no percentage reduction).

Specific serum was used in conjunction with sulfathiazole in the following types of cases of this group:

a. In type 3 infections.
b. More than 1 lobe involved.
c. Patient over 40 years of age.
d. In a comatose patient.

The presence of a positive blood culture for pneumococci in this age group with pneumococcic pneumonia, unaccompanied by any other conditions enumerated above, was not considered as an indication for combined therapy of serum and drug, as the response to sulfathiazole on the several cases reported with positive blood cultures to adequate doses of sulfathiazole was satisfactory (Table I).

In the latter postulate regarding the use of specific serum in complications or sequelae of the initial pulmonary infection, it was decided to use the serum experimentally on such later developments as unresolved pneumonia, empyema, pleural effusion, etc., when there was clinical evidence of a second period of infection characterized by a rise in temperature and leucocyte count with appropriate physical signs. A so-called second period of infection or re-invasion was further defined by the presence of a preceding interval of quiescence or apparent regression of the initial acute infection. Within these conditions specific serum was used in a total amount of 100,000 units given in divided doses to one case of unresolved pneumonia with apparent success (Type VII —see Table II).

Type II serum (100,000 units) was administered in case of right lower lobe involvement which on 6th day of disease had shown a poor response to sulfathiazole therapy with comparatively little change in physical signs. It was felt that this might represent an unresolved process. (This case is not included in Table II as a definite complication as no distinct improvement from the initial process could be shown.) The response to combined serum and chemotherapy which followed was slow but satisfactory. The basis for serum administration in this type case was the considered possibility of "Fastness to the Drug"[3b] by a particular strain of the organism, especially when the concentration of the drug had been inadequate with subsequent manifestation of an unresolved process or other complication. As work has just been started on this particular problem with serum given for subsequent complication later in the disease to only two cases, no initial conclusions can be drawn until many more cases have been tried under proper conditions. It is likewise desired to correlate such administration and end results with Francis skin tests.[1d] This unfortunately was not possible on the above two cases.

Serum in conjunction with combined form of therapy in the initial acute infection was given on three occasions (Table I). And in one case was changed from sulfathiazole to specific serum following a sudden decrease in urinary output on the 4th day of the disease.

With the sudden increase in pneumococcic pneumonia early in January, there was some confusion in differentiating the early pulmonary involvement of this type from the patchy and hazy lung density

of the atypical pneumonias which had been seen in relatively high number through the entire Fall of 1942. The chest x-rays of this latter type and the were diagnosed as "Atypical Pneumonia". Where the x-ray diagnosis was accepted as final by the clinician some delay ensued before proper therapy

TABLE II

Pulmonary Complications

/* Lobar Pneumonia, Oct. 1, 1942 - Mar. 15, 1943.

Patient	Reg. No.	Sex Age Race	Location of Pneumonia	Specific Type	Blood Cult.	Therapy: Blood Level ‡*	Clinical Response	Complication	Day of Disease	Therapy
TGD	33262	M 25 W	Rt. Lower Lobe	VII	Neg.	Sulfathiazole 3.5 mg.	Good Normal Temperature in 24 hrs.	Unresolved Pneumonia - Pleural Effusion - rt.ll.	Rise of Temp. on 4th day	Fair Response to Specific Serum
CCS	26670	M 42 W	Rt. Lower Lobe	I	Positive	Sulfathiazole 5.1 mg.	Good	Encapsulated Empyema - rt. l.l.	7th day	Thoracentesis Sulfadiazine
AH	33267	M 20 W	Lt. Lower Lobe	I	Neg.	Sulfathiazole 3.5 mg.	Good	Pleural Effusion left side	6th day	Thoracentesis
CHI	34555	M 32 W	Rt. Lower Lobe	VIII	Neg.	Sulfathiazole 4.6 mg.	Good	Small Pleural Effusion, rt.	7th day	Thoracentesis
TWC	33661	M 24 W	Rt. Lower Lobe	VII	Neg.	Sulfathiazole 3.4 mg.	Good	Pleurisy, rt. lower chest	6th day	Sulfadiazine
JTH	36570	M 20 W	Lt. Lower Lobe	Pneumococcus present, Type undetermined	Neg.	Sulfathiazole 2.4 mg.	Fair	Relapse - Non-Resolution	9th day	Slow clearing of density. X-ray contrast study showed Bronchiectasis in lt. l.l.
RRB	38895	M 20 W	Lt. Lower Lobe	Pneumococcic, Type undetermined	Neg.	Sulfathiazole 3.4 mg.	Good	Relapse - Non-Resolution	10th day	Gradual clearance
TJC	32831	M 22 W	Rt. Lower Lobe	Pneumococcic, Type undetermined	Neg.	Sulfathiazole 3.6 mg.	Fair	Pleural Effusion, rt. lung	5th day	Thoracentesis
EH	33992	M 21 W	Lt. Lower Lobe	VII	Neg.	Sulfathiazole 3.4 mg.	Good	Pleurisy, lt. l.l.	5th day	Sulfadiazine

/* Percentage of complications for Pneumococcic Pneumonias alone - 10.5%

‡* Average of first 4 days of illness.

beginning lobar involvement of the pneumococcic pneumonias in their initial stages were practically indistinguishable from an x-ray point of view and for a period of time nearly all initial, early, films was applied with the result that in some cases a high degree of toxicity developed before a change in management was made.

Due to the very early hospitalization of patients

in Army hospitals, usually during the stage of the preceding acute upper respiratory infection, before any pulmonary involvement has occurred, the patients were being seen and examined with no or minimal physical signs over the lung field in contrast to the average pneumonic patient seen in a civilian hospital.

With this in mind, the similarity existing especially between these two types of pneumonia as well as early broncho-pneumonia in the initial phases

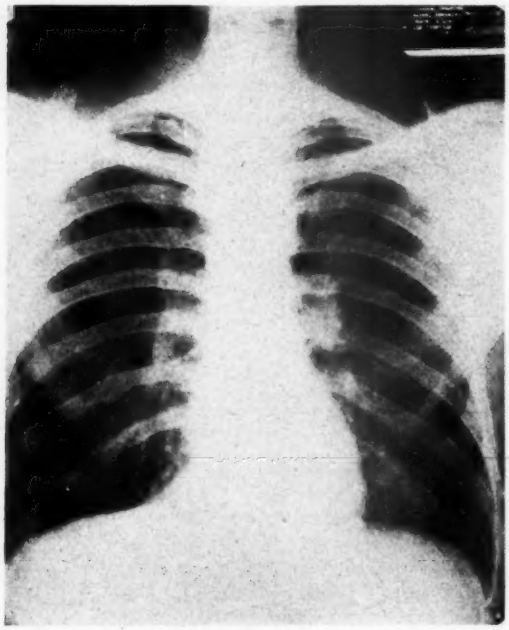


Figure 2—Atypical Pneumonia, Left Base.
A patchy, stringy type of density just lateral to the lower left cardiac border, extending toward the periphery is noted. Increased hilar markings are present. Roentgen diagnosis "Atypical Pneumonia".
Examination revealed scattered rales over left base posteriorly, slight decrease in intensity of breath sounds. No change in percussion. Slight decrease in vocal resonance.
2nd day of acute illness.

of the pulmonary involvement, should be carefully considered as they all may be represented initially on a chest film by a stringy, patchy, ill-defined density in a small area of the lung field. In this stage they all may be practically indistinguishable from an x-ray point of view: although the infiltrations in the atypical pneumonias are usually seen in the basilar or hilar areas of the lung field (Figures 2 & 5).

Figure 2 shows an atypical pneumonia with a patchy infiltration in the medial side of the left base

and Figure 3, a roentgenologically similar type of density representing a very early pneumococcic pneumonia involving the left base of the lung. Both films were diagnosed "Atypical Pneumonia". Figure 4 is a later film of the same lung field showing the later lobar involvement. To avoid error in the management of the case at this point total diagnostic reliance should not be placed on the x-ray alone and the clinical characteristics of the two processes should be kept in mind as certain differences can

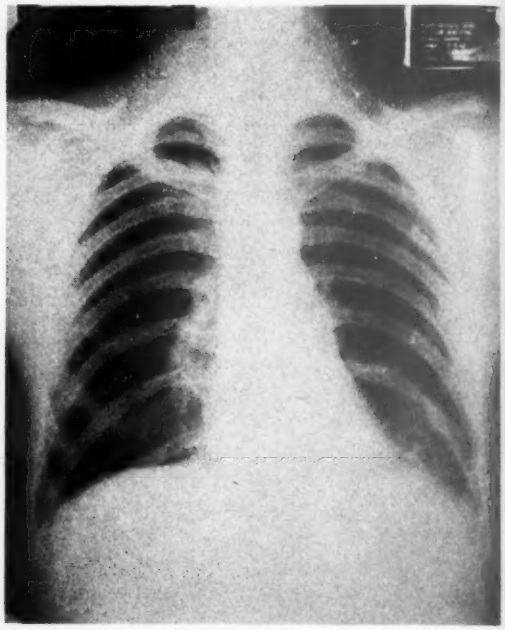


Figure 3—Early Pneumococcic Pneumonia, Left Base.
A hazy, stringy density is seen in the lower left lung field lateral to cardiac apex, extending toward the periphery. A Roentgen diagnosis of "Atypical Pneumonia" was made on the film.
Decreased breath sounds, slight dullness to percussion, occasional rales and increased vocal resonance were present over left base posteriorly.
1st day of acute illness.

be noted by a careful observer and by periodic examination of the chest.

Atypical pneumonia in its early stages is largely an x-ray diagnosis due to the paucity and transient physical signs present over the process at a particular time. A decreased or increased intensity of breath sounds may be noted, as also scattered or localized patches of rales present or absent, no change or slight percussion dullness, and increased or diminished voice sounds in one or more small local areas over the area involved. Various combi-

nations of these may be heard at different times over an atypical pneumonia. It is well known also that the first obtainable physical signs over a small area of beginning pneumococcic pneumonia are usually represented by some combination of the above, but the essential difference is that, in the latter, signs of complete consolidation appear subsequently, usually in a matter of several hours. This is rarely, if ever, true in a pure atypical variety. The patient with beginning lobar consolidation presents a more toxic

Diminished breath sounds	succeeded ⇒ by	Bronchial breathing
Dullness to percussion		Bronchophony
Occasional rales		
Increased vocal resonance		Dullness to percussion

The latter group of physical signs are definite evidence of lobar consolidation,[2b] and, likewise, it may occur prior to the demonstration of pneu-

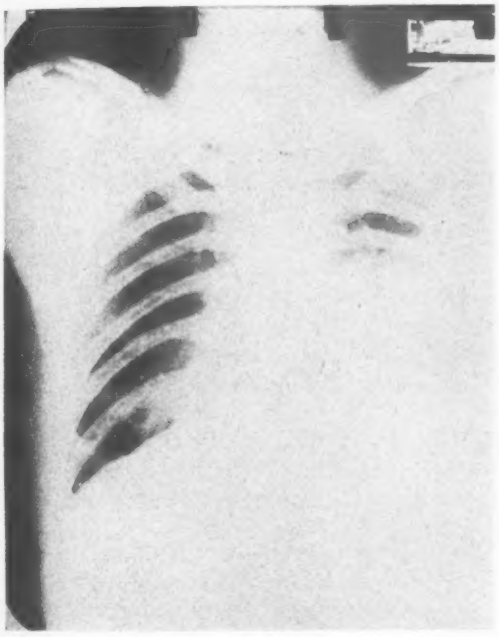


Figure 4—Pneumococcic Pneumonia, Left Lower Lobe (Type VII).
Later film of same chest illustrated in Figure 3 showing complete consolidation of the left lower lobe.
Bronchial breathing, Bronchophony and uniform dull to flat note on percussion over entire left lobe anteriorly and posteriorly are now present. No rales.
4th day of illness.

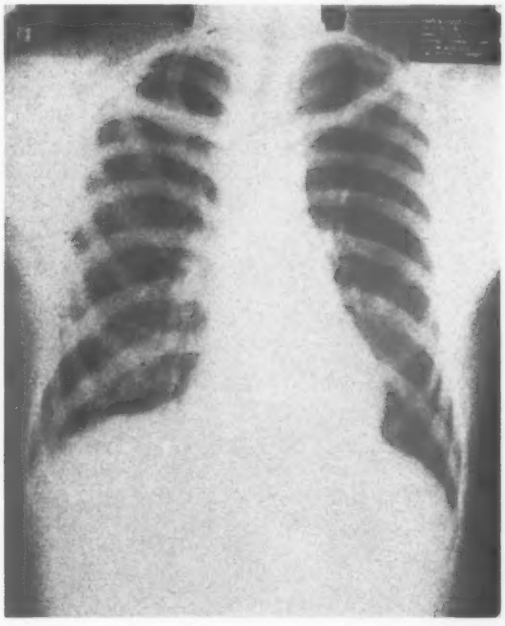


Figure 5—Atypical Pneumonia.
A stringy type of hazy density in the right base of the lung field.
No change on percussion, normal breath sounds, no change in vocal resonance, few scattered rales over right base posteriorly on examination.
Roentgen diagnosis of "Atypical Pneumonia".
3rd day of illness.

appearance in contrast to the relatively non-toxic facies of the other type, the white cell count of the blood is usually strikingly higher as contrasted with the normal or only slightly elevated count of the latter. The history of a definite shaking chill instead of a chilly sensation and the occurrence of pleuritic pain are definite aids in establishing early diagnosis. Lobar pneumonia in its beginning or initial stage holds a more definite and stable pattern of the physical signs:

mococci in the sputum. The judicious employment of the physical signs will thus be a most important means of diagnosis to the examiner in the early differentiation of the process if successive chest examinations are done at intervals of 4-6 hours. It should be stated at this point that broncho-pneumonia should not be omitted as a clinical entity in this discussion of differential diagnosis as it cannot be said at a certain stage of early lung involvement which of the three (or other rarer forms

of pneumonia) types is present, and as it is beyond the intention of this paper to go into the discussion of the differentiation of broncho-pneumonia from atypical pneumonia, suffice it to be said that broncho-pneumonia does not exhibit the physical signs of a uniform complete consolidation seen in the lobar or pneumococcic variety, but does show usually a leucocytosis in contrast to the atypical variety.

In the choice of a sulfonamide for drug therapy the experience so far on this group of patients indicates no remarkable difference in the specificity for the pneumococcus group as a whole between sulfathiazole and sulfadiazine which agrees with the views expressed by Spink[3c] who, however, qualifies this statement by saying that sulfadiazine would appear to be the drug of choice because of the lessened incidence of toxic reactions and a lower acetylization. Occasionally a patient in this series was picked with a similar type already treated with sulfathiazole and given sulfadiazine throughout the course of the disease. No essential difference in therapeutic effect has so far been noted. All the patients who exhibited the renal complications previously mentioned were on sulfathiazole therapy.

In all pneumococcic pneumonias on chemotherapy it was endeavored to reach and maintain a blood sulfathiazole level of 10-12 mg. per 100 cc.[3c] by varying the amount of drug administered. The average oral dose given was an initial dose of 4 gms., followed by two doses of 2 gms. each at 4 hr. intervals, with an average maintenance dose of 1-1.5 gms. at the same interval on a continuous basis. The blood level was determined at the end of 24 hrs. Ensuing dosage was adjusted according to the level found. Great variability was noted between individual patients in the blood levels attained on similar dosage which appeared to be independent of the body weight. It was necessary to reduce the dose unexpectedly at times in a large individual and conversely to increase it in a small individual. This variation in concentration was dependent to a large extent on the 24 hr. fluid output (including the measured urine output, plus the volume contained in the sweat, the bronchial, nasal and salivary secretions and bowel fluid) but it emphasized the importance of the blood level as the preferred criterion in determining the size of the dose to be given. Due to this factor of individual variation it was extremely difficult in some cases to reach and maintain the desired concentration on oral administration even with amounts as high as it was deemed advisable to give. In some instances satisfactory therapeutic responses were obtained and maintained before the desired blood level could be reached. The comparatively high fluid intakes per 24 hr. period (3,000 cc.) which were being given may have exerted some influence upon this.

In utilizing these comparatively higher blood levels of sulfathiazole and sulfadiazine, supplemental medication was given by mouth to alkalinize the urine as an aid in preventing renal complications, particularly the blocking of the renal tubes by precipitated crystals of the drug as pointed out by Winsor and Burch.[4]

Satisfactory therapeutic response to the drug was evidenced by a rapid fall in temperature and pulse rate from a high level to normal within 24-36 hours from the start of the administration. Before electing to use the higher blood concentration of the sulfonamide, a tendency to relapse was noticeable in some cases, following the initial temperature fall and clinical improvement. This was evidenced by a gradual rise of temperature, pulse and respiration usually within the succeeding 24-72 hours. The concentration of the drug was found to be usually between 2-5 mg. per 100 cc. of blood, with an average of 3 mg. in many of such instances, but this low level was not the sole cause of a secondary rise of temperature. It was found that besides this many cases were being taken off the drug either partially or entirely too soon after initial clinical improvement had occurred. These relapses were successfully eliminated for the most part by increasing the drug concentration to higher value and by maintaining this on the established dosage for 48 hours after the temperature had returned to normal. It was then reduced gradually by increasing the time interval between each dose to 6 hours for the next 24 hour period. Following this 1 gram three times a day for 24-48 hours was administered, depending upon the clinical picture present. In general, the average length of time the patient received the drug was 6 days.

In seeing nearly all these patients in the early stages of the infection, difficulty in obtaining sputum specimens was not infrequently encountered.

A satisfactory specimen of material for typing can usually be obtained by one of the following.

a. Careful explanation to the patient of what is desired regarding the obtaining of a speci-

men of sputum coughed up from the trachea, and providing a separate container for material cleared from the nasopharynx, and expectoration of saliva.

b. Use of CO_2 inhalations.

c. Broth culture of a swab of the posterior nares by a trained operator to avoid contamination.

d. Specimen of gastric juice.

e. Examination of material obtained from lung puncture.

Lung puncture as a means for obtaining material for typing was not resorted to in this present series.

Specific therapy can be delayed for 4-6 hours when necessary in order to obtain material for typing and blood culture. Urine specimens, blood counts and any other initial laboratory determinations desired may be obtained during this period or on admission. It is imperative that the blood culture be taken at this time as it has been previously pointed out that the initial dose of sulfonamide may sterilize the blood stream.[1f]

Beginning with the introduction of specific antisera in the treatment of pneumococcic pneumonia there has been a dramatic and progressive reduction in the mortality rate up through the use of more recent sulfonamides, sulfathiazole and sulfadiazine. Mortality rates for various groups are:

1. No specific therapy[5]
   a. For first three types
   Type I 37.7 per cent
   Type II 46 per cent
   Type III 47 per cent
   b. Types IV-VIII inclusive 18-25 per cent
2. With specific serum[1e]
   a. Average mortality rate, Types I-VIII inclusive (with exception of Type II) 12.8 per cent
   b. Mortality rate, Type II 20.5 per cent
3. Drug therapy (sulfonamide)[6, 7]
   a. Sulfanilamide 21.1 per cent (average)
   b. Sulfapyridine 18. + per cent (average)
   c. Sulfathiazole 8. + per cent (average) corrected

In group *c* this "corrected" mortality rate qualifies this group as exclusive of all cases which were fatal within first 24 hours after admission. With the inclusion of this group of cases the "uncorrected mortality rate" is 12.5 per cent. For "corrected" and "uncorrected" rates the figures of Price and Myers[6] are practically identical with those of Flippin.[7]

In this series of cases from October 1, 1942, to March 1, 1943, (total of 86 cases of pneumococcic pneumonia—Table I) one death, Type XIV, has occurred: a mortality rate of 1.16 per cent for the total number of pneumococcic cases. For the cases showing specific type alone the mortality rate is 2.28 per cent (Table I). The reasons for this reduced mortality rate at this hospital are thought to be due to:

1. The age group under treatment—20-40 years. Average age of group—25-26 years (only 7 cases over 35 years of age).
2. Early diagnosis of the disease.
3. Early institution of specific therapy.
4. Hospital care of patients(?). (Some statistics show a lower mortality rate for patients treated at home).[1g]

The low mortality figure of this particular series of cases is gratifyingly low but is not offered as an average for pneumococcic pneumonia as a whole because it is a result of therapy in a "special" group. It is special not only in average age (with unfavorable age groups excluded due to occupation) but also due to the relatively better physical condition and training on the whole than in a civilian group of similar average age.

The use of oxygen therapy has not been mentioned in this paper previously, not because it was omitted in the management of these cases, but because its use and indications have already been covered in many excellent writings on the subject. Its use in general here was as an adjunct in circulatory and respiratory impairment including pleurisy and an anemia. Approximately 20 per cent of the cases in this series received it by tent for variable periods during the course of their illness. For a detailed discussion of oxygen therapy the reader is referred to "Manual of Oxygen Therapy Techniques" by Albert H. Andrews, Jr., M.D.[8]

The results of the management of this series of pneumonia cases at this hospital on sulfonamide therapy (sulfathiazole 82.7 per cent, sulfadiazine 8.1 per cent), and on combined chemotherapy and serum therapy in certain cases, is shown by a gratifyingly low mortality rate for a favorable age group (see above). No remarkable changes were noted in the incidence of complications of the initial infection (Table II). Inspection of the table reveals that nearly all of the blood sulfathiazole readings were around 3.5 mg. In one case the concentration was

5.1 mg. It cannot be concluded, however, that these relatively low blood concentrations of sulfonamide were in themselves the precipating cause of a pulmonary complication, because, while none of those cases developing complications in the pneumococcic series has occurred so far with a high blood level of the drug, some cases with similar concentrations to those shown in Table II made satisfactory recoveries without subsequent complication. A variation in the toxicity of the infection present may be a factor. It is of interest to note that all of the complications so far recorded arose from pneumonias of the lower lobes.

In summary, it should be said that there are other phases in the management of this type of pneumonia which have not been touched upon by this paper but the particular phases of the problem which have drawn our attention most frequently in the general clinical management have been discussed. The influence on the therapy and handling of these cases on this Medical Service which resulted from the successive study of the cases may be summarized as follows:

1. Care in the history as to the occurrence of chill and chest pain, also as to type and duration of preceding illness.
2. Physical examination of chest periodically at 4-6 hours in the upright position in cases of early or suspected pneumonia.
3. Estimate apparent toxicity of patient.
4. Delay start of specific therapy for several hours if necessary to obtain blood culture and material for typing. Other initial laboratory specimens also may be taken at this time.
5. Determination of the type of pneumococcus present while not generally important to the specific effect of the sulfonamides is important in relation to the possible use of other forms of therapy.
6. The level of blood sulfathiazole is the preferable criterion in determining the amount of the drug to be given. A level of 10-12 mg. per 100 cc. seemed optimum for treatment of pneumococcic pneumonia.
7. The established dose necessary for desired blood level of the drug is continued for a full 48 hours after the temperature has decreased to normal, with gradual reduction of the dosage of the drug over the course of the succeeding 3 day period.
8. Alkalinization of the patient's urine as an aid in preventing renal complications with the higher blood levels of the drug. Cessation of the drug if the fluid output falls below the 1,000 cc. per day.
9. The combined use of chemotherapy and serum therapy is advocated
   a. If patient is 45 years of age or over.
   b. If more than 1 lobe is involved.
   c. If patient is comatose.
   d. In Type 3 infection.

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THE TREATMENT OF BURNS*

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The care and treatment of burn patients has been one of the problems of the medical profession since prehistoric man discovered fire. The methods used are too numerous to describe or even to mention, but it might be well to review some of the principles used in the past which we still use in treating our burn patients. One of the principles of modern therapy was first described by Billroth in 1871 when he recommended silver nitrate as a coagulating agent in treating burns. This method was entirely forgotten until 1925, when Davidson published the principles of the tannic acid technique. Bettman improved this technique by applying 10 per cent silver nitrate to 5 per cent tannic acid, thus forming an eschar almost immediately. Aldrich in 1933 introduced the use of the triple dye technique. Advances made since the present war began might be listed as: (1) the sulfa drugs; (2) the use of adequate amounts of plasma; and (3) compression dressings as advocated by Koch and others.

Because of the large scale bombing attacks on civilian populations and the widespread use of mechanized warfare, burns and their treatment have become a major problem to military surgeons. We in the Navy have still another type of burn casualty —the "flash burn" patient. An exploding bomb or torpedo generates a tremendous amount of heat which extends outwards from the point of the explosion. This "flash" can be seen but moves so rapidly that few of the crew are able to escape it. The heat generated is of short duration, probably 15-30 seconds, but is so intense that it will cause second and third debree burns of any part of the body not covered by clothing. Therefore, the face, neck, wrists, hands and ankles are the portions of the body usually burned.

The large number of burns occurring in this war has made their treatment almost as much of a specialty as orthopedic, neuro, chest, or other branches of surgery. In the past, burn cases were admitted to any "dirty" surgical ward and their care usually fell to an interne, but experience has proven the advantages of a well trained and cooperating "burn" team. Knowing that many of the casualties from the recent landing in Africa would be burn cases, a special "burn" ward was prepared and ready when these cases were admitted to the Norfolk Naval Hospital. As advocated by Whipple, a special burn team consisting of a general surgeon, a plastic surgeon, a laboratory technician and, later, a physiotherapist, was assigned to this ward. Only nurses and corpsmen especially interested in burns and trained in burn treatment were chosen for duty. The complement of personnel had to be well above the usual number assigned to a ward of this size as burn cases require an extra amount of nursing care. Many nurses and corpsmen have been unable to work on this ward because of the odor and disfigurement of the patients.

Fig. 1.—Corachan graft being excised from anterior abdominal wall.

For the first six months after opening the burn ward, we used Evans' method of treatment. This consisted of the application of No. 44 mesh gauze impregnated with 6 per cent sulfanilamide in equal quantities of cold cream and lanolin. Over this a compression dressing was applied. At first we had great hopes that the local use of sulfanilamide would prevent infection in the burns but this hope has not materialized. In addition, it is probable that sulfanilamide retards healing in third degree burns, as Veal has shown it does in other wounds. But the sulfa drugs by mouth or intravenously have decreased the number of cases of septicemia and death and therefore have a definite place in the treatment of burns.

*Read before the Norfolk County Medical Society, October 18, 1943.

In spite of using rigid sterile technique in dressing and redressing our cases, over 50 per cent of the third degree burns have become infected. Cultures taken from these infected cases revealed hemolytic staphylococcus aureus and hemolytic streptococcus. We have found wet dressings of 2 per cent acetic acid the best agent to clear up these infections. Although our percentage of infection is high, Meleney has reported a similar high percentage in 1,500 cases which included industrial wounds, burns, and compound fractures. All of Meleney's cases had the advantages of early treatment by skilled surgeons under ideal conditions. Military surgeons, with few of these advantages, can little hope for any marked decrease in the number of infections until some new drug or method of treating burns is discovered.

Fig. 2.—Excised full thickness skin being sluiced into grafts, each approximately 2 mm. thick and 1 cm. wide.

Fig. 3.—Grafts being placed on granulating wound. Note that donor site has been closed with interrupted sutures.

Within five days, severely burned patients develop anemia and hypoproteinemia. It has been reported that this anemia is due to an increased fragility of the red blood cells. We have been unable to substantiate this finding in any burn patient later than three weeks after the initial injury. We have seen no case of clinical jaundice, hemoglobinuria, or pink plasma. Our cases have shown normal or slightly increased resistance of the red blood cells. One of our patients showed a fall in the red blood count from four million cells with 72 per cent Hb. to less than two and one-half million cells with 52 per cent Hb. in four days. This fall in the red blood count developed in spite of the patient receiving a high vitamin—high protein—high caloric diet, adequate doses of ferrous sulfate and parenteral liver extract. Although we have been unable to make bone marrow studies, we believe that this rapidly developing anemia is due to decreased production of red blood cells caused by a toxin from the burn rather than an increased destruction.

I do not intend to give a detailed description of all the countless techniques that have evolved for the treatment of burns. The originators of these methods have each reported excellent results using their own technique but most of these methods cannot be used by the military surgeon in battle because some require a large amount of nursing care, prolonged debridement, special equipment, etc. In battle, a surgeon must use the material and equipment at hand, use the method that is quickest applied, but is adequate and which requires the least amount of nursing care. An ideal burn dressing should protect the burn area from contamination, be bacteriostatic, prevent the loss of fluids and plasma, and relieve pain. The dressing should be easily applied and readily available, be non-toxic and non-constricting and give good cosmetic results. It has been our experience that a compression dressing over fine mesh vaseline gauze fulfills these requisites except that it is not bacteriostatic.

Tannic acid therapy has been the most widely used method of treating burns since Davidson first described it. There is no doubt that this method is the quickest and easiest applied, but, unless strict vigilance is maintained for infection, this method gives the poorest end-results. Under battle conditions, asepsis is seldom possible and the greater the number of casualties, the less is it possible to give each patient the care necessary to prevent infection. Tannic acid will destroy islets of undamaged epithe-

lium, and will convert many second degree burns to third degree burns; it prolongs morbidity in third degree burns as skin grafting cannot be undertaken until the eschar has been removed; it causes gangrene of the fingers and toes and the resulting scar is thicker and more apt to contract than when vaseline gauze is used. In the hands of inexperienced doctors or where adequate care is not available, tannic acid therapy can be more dangerous than the burn itself. For these reasons, the Navy Department advises against its use except in specially selected cases.

Skin grafting is indicated in all third degree burns as soon as a granulating surface is present—about ten to fourteen days after the initial injury. Formerly we believed that the area to be grafted had to be free of infection before grafting could be attempted but we have found that many grafts will "take" even though mild infection is present. The percentage of "takes" will be higher if the granulating surface is free of infection, but infection is no contra-indication to early skin grafting. We have used the Ollier-Thiersch, the "pinch", the pedicle and the Corachan grafts, but have found the Corachan grafts so far superior to other grafts, especially if the area is large or if it is infected, that we seldom use any other method except in plastic repairs.

The Corachan method of skin grafting has several great advantages: first, the donor area of skin required is only half of that of the "pinch" graft; second, the wound produced at the donor site is immediately closed by interrupted sutures and heals by primary union. The skin section removed can be taken from any unburned area, care being taken that no subcutaneous fat is included. A narrow ellipse of skin approximately one-sixth the size of the area to be covered is excised and the wound sutured after undermining the edges. The section of excised skin should be divided longitudinally if it is more than three-fourths inch wide as the grafts should not exceed this width. The skin is placed on a wooden block and cut transversely with a razor blade into a number of thin strips not exceeding 2 mm. in thickness. These grafts are then placed on the granulating wound edgewise, that is to say, with one of the edges cut by the razor in contact with the granulations. These grafts are placed one-half to one centimeter apart, then covered with perforated cellophane or waxed gauze. Over this is placed a thick dressing of gauze and mechanics waste or cotton moistened with 25 per cent glycerine in N. saline. Compression is maintained with a cotton-elastic bandage. This dressing is not disturbed for twelve to fourteen days unless the patient develops a fever.

Anorexia is a troublesome problem in the treatment of burn patients. The intake should be around 6,000 calories per day, but it is extremely difficult to get many of the patients to eat this amount. Frequent small feedings may enable the patient to obtain a high caloric diet, but usually the diet must be supplemented with transfusions of whole blood, and plasma and infusions containing amino acids in glucose to maintain a nitrogenous balance. Lund has described in his excellent paper how he gave 300 gms. of protein per day in the form of amino acids to a severely burned patient before obtaining a nitrogenous balance. Later he increased the dosage to 500 gms. of amino acids daily before healing took place. This is equivalent to ten pounds of meat. Amino acids may be given intravenously or intrasternally in 5 per cent glucose or by mouth. The latter route has been unsatisfactory in our patients because of the disagreeable taste of the acids, but they can be given with other nourishment through a Levine, or, better, a Miller-Abbott tube.

We have used Berkow's index to determine roughly the extent of a burned area but this method is not entirely satisfactory as it doesn't take into account the depth of a burn. Those patients burned about the face are more ill than others that have an equal or even larger burned area on any other part of the body. It is probable that the location of a burn is as important as the area or depth.

In the past, most surgeons have debrided burned areas. Even with sterile technique under ideal conditions, Meleney has reported that burns debrided have a higher percentage of infection than those not debrided. In battle, extensive debridement is seldom possible and future findings may prove conclusively that this tedious and time-consuming procedure is not only needless, but is harmful. Recently we have treated a few fresh burns by cleaning the area, excising shreds of skin and ruptured blisters but leaving unruptured blisters intact. These cases have all remained free of infection and made uneventful recoveries, but we have had too few cases to draw any conclusions.

The very existence of so many different forms of

burn therapy is proof that the ideal method which can be adapted to any type of burn has not yet been discovered. Almost any of the present day methods of treatment will give good end-results in second degree burns, but, regardless of the local treatment, the surgeon must keep in mind that he is treating an open wound and adhere to the principles of rigid sterile technique. No magic drug has yet been discovered that will replace epithelium in third degree burns except skin.

CONCLUSIONS

1. The treatment of burns has always been a major problem to the medical profession but this problem has been increased by the large number of burns occurring in this war.

2. Burn casualties are best treated on a special "Burn" ward by a "burn" team consisting of a general surgeon, plastic surgeon, physio-therapist and laboratory technician.

3. Sulfa drugs locally do not prevent infection and may retard healing of burns.

4. The percentage of infection in third degree burns is above 50 per cent in spite of using sterile technique.

5. The cause of the anemia seen in severely burned patients has not been definitely determined.

6. Whole blood, plasma and amino acids must be used in addition to a high caloric—high protein diet to maintain a positive nitrogenous balance.

7. The Corachan method of skin grafting is superior to the "pinch" or Ollier-Thiersch grafts.

8. Berkow's index is not entirely satisfactory in determining the severity and prognosis of a burn patient.

9. Debridement of burns may not be necessary.

10. The ideal burn dressing has not been discovered.

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Should Vitamin D Be Given Only to Infants?

Vitamin D has been so successful in preventing rickets during infancy that there has been little emphasis on continuing its use after the second year.

But now a careful histologic study has been made which reveals a startling high incidence of rickets in children 2 to 14 years old. Follis, Jackson, Eliot, and Park* report that postmortem examination of 230 children of this age group showed the total prevalence of rickets to be 46.5 per cent.

*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child., 66:11, July, 1943.

Rachitic changes were present as late as the fourteenth year, and the incidence was higher among children dying from acute disease than in those dying of chronic disease.

The authors conclude, "We doubt if slight degrees of rickets, such as we found in many of our children, interfere with health and development, but our studies as a whole afford reason to prolong administration of vitamin D to the age limit of our study, the fourteenth year, and especially indicate the necessity to suspect and to take the necessary measures to guard against rickets in sick children."

OUTLOOK FOR THE NURSING PROFESSION*

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The intimate association which I have had the good fortune to have with the nursing profession for the past twenty-five years has enabled me to draw certain deductions about which I propose to talk to you. My association with graduating addresses has always led me to feel that such addresses were often too general and not sufficiently direct. It will be my effort to offer some positive suggestions to you which I hope may be helpful. I count among my best friends many women in the nursing profession. The success of my work has been absolutely dependent upon the interest and enthusiastic association of nurses and I cannot have other than the kindest and most sincere feelings toward your profession.

You may well feel that your profession has contributed to a material degree towards the progress which has been made in clinical medicine. Doctors generally and surgeons particularly have been dependent upon your intelligent recognition of the clinical course of patients when an effort has been made to evaluate properly the treatment which we have employed. This responsibility of the nurse has been constant since the time of the early development of your profession and you may well remember with pride that the greatest progress in medicine has occurred since the period of the recognition of the graduate nurse. You appreciate, I am confident, our helplessness when we try to prophesy as to what the future may hold in store for any of us, but certainly there is nothing on the immediate horizon to cause us to feel that the close relationship between the medical and the nursing profession may in any way be interrupted.

Many medical men today believe that we are approaching an era in which socialized medicine may be more generally emphasized. Thoughtful physicians with whom I am acquainted are not opposed to socialized medicine, but they do believe that the best interest of the patient may be served by accepting group medicine as it may be directed by the medical profession. So-called panel medicine of a type has been practiced in certain European countries for a half century. The men who have been most familiar with this particular type of practice have expressed views indicating that the relationship between patient and physician cannot be maintained in the practice of panel medicine, and, in consequence, scientific medicine has often suffered along with an associated disadvantage to the patients. I do not know that you will be called upon to ever render a decision in matters of this sort, but I can foresee a possible period when you may be faced with the dilemma of whether or not to associate yourself with medicine in a commercialized form. Frankly, I would want you to understand that my views of this problem must necessarily be prejudiced, but I do believe that I can advise you to look sincerely into the type of your association before affiliating yourself with any type of practice that may be in conflict with the regular medical profession. The inter-dependency between the nursing profession and the medical profession must necessarily be accepted if both of these professions are to continue their scientific efforts and promote their dual welfare.

When you chose the nursing profession as your life's work three years ago you naturally made sacrifices in order that you might fulfill the requirements of this prescribed course of instruction. The majority of your group were probably actuated in arriving at a decision to select this field of work because of a sincere desire to render intelligent service to your fellowman. You, of course, weighed in your mind the advantages offered you in the nursing profession as contrasted with the opportunities which were available to young women in other walks of life. Today the opportunities in the nursing profession are infinitely greater than they have been at any time in my knowledge of the history of our country. It must be a glorious sensation to you to feel that you are graduating at a time when there is such a great national need for the practice of your profession. Students of the history of nursing have told me that the demand for nurses has vacillated in cycles of about ten-year periods. This vacillation, I am told, has been reasonably constant, but I feel that with conditions as unpredictable as they

*Address to the Graduating Class, Jefferson Hospital, Roanoke, Va., May 26, 1943.

are today that there is strong evidence that there may be an extension of this cycle of urgent employment for a much longer period than has been constant in the past. Unless your Government has made a tremendous error in anticipating the number of casualties in this war, then there is every probability that there is going to be a lasting demand for nursing assistance over a long period of reconstruction, even after the war has been won. I appreciate, of course, the fact that the number of nurses who will graduate will materially increase, but I still doubt our ability to produce nurses as rapidly as the demand will require. In any event, the point of saturation in the nursing profession has not been reached and there is no indication that such a state is imminent.

Our Government has taken steps to offer nurses a recognition during this war which they have never had in any previous time. During the period of World War I the average nurse was given the status of a non-commissioned or warrant officer with a remuneration of such grades. Today nurses are accepted in the service and given commissions, and promotion has been made available in a manner that is befitting the fine service which you are qualified to render. It is my personal belief that with this changed recognition, on the part of our Government, your profession is being offered a position of dignity commensurate with your work and I believe that there will follow in civil life a recognition which will parallel your improved military status.

Many young women who are candidates for admission to schools of nursing will rightfully come to you within the period of the next few months to ask your advice about entering the nursing profession. Your opinion as expressed to this group of girls will properly carry considerable weight in effecting their decisions. There is available today for high school graduates immediate emergency employment which will offer very attractive returns. So far as I know, there is no assurance that this type of employment will continue after the war is over as contrasted with the rather definite assurance that the nursing profession has entered into an added place of dignity with a likely available constant employment. I hope that each of you will understand your responsibility to your profession in this matter and that you will act as advisors to this group of young women who are making a decision now as to their life's work.

I am of the opinion that our state and nation owe a responsibility to the nursing profession which has long been unrecognized. It is probable that 80 per cent of the young women who will graduate in nursing this year in the State of Virginia will graduate from institutions which are not subsidized or rendered material assistance in any manner by state or national funds. This means that a tremendous majority of the graduates of nursing schools in Virginia have had offered them a very varying degree of nursing education. I am not unmindful of the fact that the State Board of Nurse Examiners has manifested a keen and intelligent interest in its effort to standardize nurses' education, but such efforts have not been sufficient to compensate for the limitation in funds which are available in many institutions that educate nurses, and, in consequence, the nursing schools have often suffered for lack of facilities. I personally doubt very much whether there exists an obligation on the part of any private or municipal hospital to operate a school of nurses. If such institutions assume this responsibility, then they must expect to derive certain benefits from the association of their nursing school. My feeling is that with the present high standard of nursing education, which we all believe in, there must be some standardized course of nursing education and some routine supervision of the amount of service which a student nurse may be required to supply the institution in which she is being educated. Our state and other states are making an all-out effort to standardize medical education and such education is assumed as a responsibility of the state. Similar responsibilities are assumed by the state in the training of lawyers, the training of engineers and in higher education generally. I do not know of any reason why the state does not owe the same responsibility to the teaching of nurses. I remember only too well the period in the development of your profession a few years back when many of the smaller hospitals profited financially by the efforts of the students in their nursing schools. The contribution which a student nurse makes today towards the care of sick people in an institution is certainly inconsequential as compared with their efforts and practice in the past.

You are graduating at a time when your hospital

has not received particular advantage as a result of your presence since the present nursing educational requirements demand that a large part of your time be given to instruction. Fortunately for you as individuals you have chosen for your training an institution with a fine reputation for meeting its obligations and you will go out in your life's work among the more fortunate in your profession. Many young graduates in nursing are less fortunate than you. For reasons which seemed good to them they chose to take their education in institutions with limited facilities and in many instances in institutions less interested in their welfare. When the State Board of Education has certified you as qualified to enter nursing schools and when the Nursing Board has approved the hospital which you have selected, then the state has exerted very little influence over your prescribed instruction other than to outline it in principle. Since the state has exerted no definite influence in the supervision of your instruction, it must be recognized that there is actually no orthodox procedure followed in various institutions.

I have thought for a long time that the various states have not met their responsibility to you when they did not insist upon a supervised and systematized course generally. I appreciate, of course, that this is not a simple problem, which may be adopted without financial responsibility on the part of the state, but when it is recognized how vital is the necessity for the production of nurses and how necessary is the standardization of this instruction, I feel that the various states should take some action in standardizing this educational program. It is my belief that an ideal arrangement would be for candidates for the schools of nursing to be primarily evaluated by the State Board of Education and the selection made by qualified nursing educators. Possibly the states could make arrangements to offer a standardized course of instruction in their various state controlled schools where all of the nursing sciences might be taught and some of the fundamentals of nursing practice taught for a period of a year or eighteen months. At the expiration of that time these girls might be placed in accredited hospitals where their nursing practices might be further taught with close approved supervision. I feel that your instructors should have the primary objective of promoting your further education in the practical application of the principles which have been taught you and your supervisors would naturally see that your services were not exploited by the institutions which you were serving. It would, of course, be necessary that the hospitals which you were serving might be in some manner benefited by your presence and practice. An obvious criticism of this policy might come from the hospitals which were limited in their equipment and facilities, but when these hospitals were relieved of the necessity of educating you in the nursing sciences, an added benefit would be derived by the institution from your association with the nursing practices. Conceivably, however, students might spend a part of their hospital period in various institutions with a view of gaining the advantages of particularly valuable practices in individual hospitals.

Such a method of education would enable you to carry to these various institutions a more modern method of nursing practice which is a distinct need occasionally. I appreciate, of course, that this is a great departure from your present method of education, but I believe that the time will come when your profession will be strong enough to assert itself and to encourage adequate legislation in order that some systematized instruction may be offered to all young women who are giving such a vital period of their life to this effort. I predict that from this present world conflict many women will emerge qualified to offer definite advice in our post-war educational reorganization. There are many people who believe that our educational system is going to have many radical changes and departures.

One outstanding criticism of your system of education has manifested itself to me and I have often heard it referred to by my colleagues. When an institution or an individual is seeking the services of a nurse for some particular problem which requires responsibility, intelligence and application of principle, invariably a recent graduate of a nursing school is sought. Such a basis of selection would not be practiced in selecting an individual for any other type of employment from other professions. That is, we have felt that properly directed experience was vital in qualifying people to render a particular service. We must then ask ourselves why a nurse who has had the advantage of experience would not be more valuable than a recent graduate from a nursing school who necessarily has had a

limited practical experience. It is my belief that the explanation sought lies in the fact that the average nurse who has just graduated from a school of nursing has available to her immediately the relative maximum return for her efforts. Ordinarily at the end of a ten year period of practice the average nurse's income is not appreciably more than it is in a period immediately after her graduation. Of course these facts are not absolutely true in the instances of those of you who go into the teaching end of your profession or those of you who specialize in the various branches of your work. Such a criticism as I have made should not be offered unless an effort is made to suggest a remedy for its correction. I believe that the spread between a nurse's immediate financial return after graduation and the return which may be offered after specialization is not sufficient. The human element as manifested in people has always shown a close alliance between effort and return and when there is not available to a highly educated nurse a better position than is available to one of mediocre education and indifferent interest, then there is little encouragement offered to promote improvement in one's professional advancement. I hope that the improved military status which is available to nurses today may encourage a further interest in this problem and ultimately result in correction of this erroneous practice.

Center for Scientific Study and Development of Physical Medicine.

The establishment of the first center for the scientific study and development of physical medicine as a branch of medical practice has been announced by Basil O'Connor, President of The National Foundation for Infantile Paralysis. The center will be in the Graduate School of Medicine of the University of Pennsylvania at Philadelphia, under the general direction of Dr. Robin C. Buerki, Dean. To set up this center, The National Foundation for Infantile Paralysis has made a grant totaling $150,000 for a five-year period from January 1, 1944, to December 31, 1948.

It is stated that there are only a few schools or departments connected with any of the medical training centers which are equipped to explore thoroughly on a sound scientific basis the possibilities of physical medicine, and this is but the first step in a program which should afford a scientific basis for physical therapy and lead to the establishment of a more desirable teaching program.

Physical medicine plays a most important part in the treatment of infantile paralysis. Since it was first organized, the National Foundation has been continuously concerned with this phase of treatment. It has spent during the past six years over $350,000 to educate and train physical therapy technicians. An additional $364,000 has been granted to laboratories and universities to study many problems in physiology and medicine having a close connection with the practice of physical therapy, but never before has it been possible to combine in one place both medical research and teaching in this important field.

Importance of Atabrine to Armed Forces.

The importance of Atabrine to the armed forces is highlighted by a telegram from Major Gen. Norman T. Kirk, surgeon general of the United States Army, to Winthrop Chemical Company, as follows:

"Reports from war fronts testify to the importance of Atabrine which has proven an excellent substitution for quinine in the treatment and prophylaxis of malaria. This product has filled a need of the Medical Corps and is responsible not only for the saving of lives but assistance in the maintenance of health of our troops. You may be proud of your contribution in the development of Atabrine."

Winthrop's research made possible the production of Atabrine entirely from materials available in the United States. Its own output of this drug is now 300 times greater than this country's annual prewar demand; in addition, Winthrop has issued to ten other pharmaceutical and chemical companies royalty-free licenses for the production of Atabrine for the armed forces.

A STUDY OF THREE THOUSAND BLOOD TRANSFUSIONS

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On the basis of over four thousand units of blood drawn from donors and more than three thousand blood transfusions given in this hospital within a period of fifteen months, it is possible to collect significant data upon the blood and the reactions to transfusions. Here, two separate blood banks are maintained for white and negro patients, although no physiological basis for separation has ever been demonstrated.

Technique of Operation: 500 cubic centimeters of blood are drawn from each donor by a semi-closed system into fifty cubic centimeters of sterile 5 per cent sodium citrate solution. The blood is typed by the open slide microscopic method, using typing serum which has been shown to give almost complete agglutination within 20 seconds in a 1:10 dilution, when tested with many different erythrocyte suspensions. The blood is stored at a temperature of 4° Centrigrade until it is used, or until it is seven days old; it is then prepared as plasma. Direct cross-matchings are performed between all bank bloods and bloods of recipients; the test-tube method of Landsteiner is employed for this purpose.[1] Detailed data are kept on all bloods drawn and on all transfusions; these data form the basis of this report.

During the fifteen months' period, a total of 4166 pints of blood were collected. Of this number, 2164 were from white donors and 2002 from negro donors. When these bloods are classified according to groups, it is observed that the white bloods conform to the accepted distribution of the four blood groups in the United States. However, the percentage of type B bloods among the negroes is double that in the white B group; this has been observed previously by Snyder.[2] It is doubtful whether this variation has any significance apart from mere racial difference (Table I).

The incidence of a positive serologic test for syphilis was 1.2 per cent in the white group and 14.7 per cent among the negroes (Table II).

The incidence of syphilis in the negro population of this region is 20-22 per cent; the improvement noted in our series is a result of careful questioning of the donors regarding history and treatment of syphilis.

TABLE I

Bloods Classified According to Group

Blood Group	Number		Percentage	
	White	Negro	White	Negro
AB	91	69	4.5	3.3
A	872	490	40.3	24.5
B	230	423	10.5	21.2
0	971	1020	44.7	51.0
Total	2164	2002		

Transfusions: A total of 3154 blood transfusions have been performed within fifteen months. Of these, 1800, or more than 55 per cent, were for surgical patients, with unequal distribution of the remainder among the other services (Table III).

TABLE II

Incidence of Positive Serologic Test for Syphilis

	Number	Percentage
White	25	1.2
Negro	295	14.7

TABLE III

Transfusions by Services

Service	Number	Percentage
Medicine	646	20.5
Surgery	1800	57.1
Pediatrics	206	6.5
Obstetrics	408	12.8
Neurosurg.	94	3.1
Total	3154	

It may be noted from Table IV that approximately 70 per cent of the transfusions were given within the first three days after the drawing of the blood.

TABLE IV

Age of Blood at Time of Transfusion

Age of blood (days)	0	1	2	3	4	5	6	7	8
Number given	418	819	653	463	326	230	153	83	9

The studies of Scudder *et als.*[3] and Muether and Andrews[4] have demonstrated that the value of blood to the patient is in inverse proportion to its age. However, Belk and Barnes[5] found that transfused erythrocytes of citrated blood kept at 4° to 6° Centi-

grade survived in recipients as long as did the cells of fresh blood, when the storage time did not exceed two or three days. A relatively small percentage of the transfusions were given with blood stored longer than four days. In addition to these 3154 transfusions, 554 pints of blood were prepared as plasma which was kept in the frozen state; the majority of these 225 cubic centimeter units of plasma were given during the period included. As a by-product of the plasma prepared after sedimentation of the erythrocytes at the end of four or five days, preparations of concentrated red blood cells were made by separation of the erythrocytes from the buffy coat (leucocytes, platelets, etc.) by suction. Several patients with anemia, complicated or uncomplicated, received transfusions of this material. Williams and Davie[6] and others have recently reported their work on concentrated erythrocyte suspensions; a detailed report of our studies on concentrated red blood cells will form the subject of another communication.

Transfusion Reactions: Reactions to transfusions are best classified according to the causative factors, These may be:

(1) non-specific factors
(2) allergic factors
(3) definite incompatibility between the blood of the donor and recipient.

Reactions due to non-specific factors are by far the most common, and constituted the vast majority in this series. Reactions with allergic manifestations are relatively less frequent, while hemolytic reactions due to definite incompatibility of the recipient's and the donor's bloods are uncommon.

The *non-specific reaction* usually appears as a shaking chill, with subsequent fever, occurring within an hour after the transfusion. Some patients develop fever in the absence of a preceding chill; this is also a manifestation of non-specific reaction to the infused blood. Another type of reaction following the use of blood stored in the refrigerator is a sensation of chilliness or even a definite chill without accompanying fever or evidence of destruction of the transfused erythrocytes. Undoubtedly the source of this response is that much of the blood is infused at 4°-6° Centigrade, and that a relatively cold material is introduced into the body. There are no chills without fever when blood is given at room temperature. In this group of cases chills with or without fever and a temperature elevation of more than 2° Centigrade were considered to indicate the presence of a non-specific reaction. Of the 3154 transfusions, 205 produced chills or fever; there were 125 chills *and* fever, 44 cases of chills *without* fever, and 35 instances of simple temperature elevation. A febrile response was not considered to be present when the transfusion did not alter the temperature curve of a patient who was exhibiting a febrile course. An attempt was made to demonstrate any factors which could, by correlation, be shown to be the cause of the febrile reactions. In a few cases, individual patients suffered reactions with fever to more than one transfusion. For instance, one patient with an aplastic type of anemia received a total of forty blood transfusions within a year; each of the donor-bloods was compatible with the patient's blood. Nevertheless, she had a febrile reaction to all but two or three transfusions, without any clinical or laboratory evidence of an hemolytic reaction. In our experience there was no appreciable increase in the percentage of chills and fever with increasing age of the transfused blood (Table V).

TABLE V

Non-specific Reactions Correlated with Age of Blood

Age of Blood	0	1	2	3	4	5	6	7
Number of Reactions	23	59	44	26	23	16	5	8
Per Cent of Transfusions	5.5	7.2	6.8	5.6	7.0	6.9	3.2	9.6

Hamilton and Martini[7] have emphasized the fact that the pregnant or puerperal woman is more susceptible to all types of transfusion reactions. They obtained 20.9 per cent reactions in pregnant cases, while there were reactions in only 11.4 per cent of their non-pregnant cases. From Table VI, it may be seen that no such disproportion occurred in our series, when febrile reactions were considered.

TABLE VI

Non-specific Reactions Correlated with Services

SERVICE	SURG.	MED.	OB.	PED.	NEURO.	TOTAL
Number of Reactions	107	57	30	6	5	205
Per Cent of Transfusions	5.9	8.8	7.3	2.8	5.3	

The highest percentage was 8.8 per cent, in Medical patients; in pregnant and post-partum cases the incidence was 7.3 per cent. Thus, although a few specific patients are more susceptible to febrile responses than usual, there is no correlation of these

reactions with the age of the blood or with the type of patient transfused. Extraneous factors, such as improper cleansing of equipment, have long been believed to cause most non-specific reactions.[8] In our cases changing the sodium citrate produced no effect. No febrile responses had been occurring to intravenous fluids; therefore, pyrogens in the distilled water could not be incriminated. However, upon studying the series more carefully, it was noted that the reactions appeared in groups; several might occur within a day or two, without any subsequent reactions for a week or more. Examination of the equipment revealed that it was improperly cleaned at many of these periods of reactions, although the correlation was not exact. So the only demonstrable causative factor for non-specific reactions to blood transfusions in our group was variation in the technique of cleaning equipment.

Thirty-seven transfusions, or slightly more than 1 per cent of the total, were followed by symptoms of an *allergic nature.* In every instance the reaction was urticarial. Dyspnea occurred in one cardiac patient, but there was no true asthma; nor were there any instances of anaphylactic shock with sudden death. Wiener[9] has discussed briefly the factors involved in allergic reactions. One patient in our group demonstrated definite allergy to plasma he received therapeutically.

Case 1: B. S., colored, male, age 50, blood group 0, was admitted on May 6, 1943, with a diagnosis of perforated peptic ulcer. He was operated upon and the perforation was repaired. Soon after operation he developed the signs of shock, and was given intravenously 1500 cc. of 5 per cent dextrose in saline solution plus 500 cc. of grouped plasma (Lot No. 34). Almost immediately he developed severe generalized urticaria, which responded to parenteral ephedrine sulfate. On May 7, he was given another 500 cc. of plasma from Lot No. 34; generalized urticaria appeared again. On May 10, he received 500 cc. of plasma from Lot 35; there was no reaction. During the remainder of his hospital stay his course was stormy, and it was necessary to give him 2000 cc. of grouped plasma from various lots. Allergic symptoms did not appear after the plasma or after blood transfusions. He gave no positive history of hay fever, urticaria, asthma, or other allergic manifestations. His family history was negative for diseases of an allergic nature.

Thus, in this case, there were definitely factors in plasma Lot No. 34 only which produced symptoms of an allergic nature in this patient.

Hemolytic reactions attributable to incompatability between the blood of the donor and the recipient have been rare in our series. In the only case we have noted, Type A blood was given to a type B patient through neglect of the routine precautions.

Case 2: L. C., colored, female, age 23, blood group B, was admitted October 15, 1942, with generalized edema and dyspnea. Studies indicated moderate impairment of kidney function, and the diagnosis was chronic glomerular nephritis, nephrotic stage. NPN was 44 mgs. per 100 cc. and there was marked hypoproteinemia. On October 15, she received one 500 cc. transfusion of compatible type B whole blood without reaction. On October 27, cross-matching was again performed; however, the interne failed to follow the routine precautions of checking the blood. As a result the patient had received 150 cc. of type A blood when she suddenly developed nausea, vomiting, and severe abdominal pain. Her temperature dropped to 96°, pulse rose to 110 per minute, and the signs of mild shock appeared. During the next day she voided dark red urine, and she appeared slightly icteric. Although there had been good diuresis for the two days preceding the transfusion (output of 2050 and 3350 cc.), during the three subsequent days urinary excretion did not exceed 675 cc. in 24 hours. Her NPN rose to 52 mgs, per 100 cc. then dropped to 40; thereafter diuresis returned.

The physiological and pathological changes of hemolytic transfusions have been discussed adequately many times. Also the recently described Rh factor brings an added cause for incompatability reactions. It is sufficient to state that such reactions may be avoided in almost every instance by the use of high titer typing serum, by routine direct cross-matching, and by testing for incompatability due to the Rh factor in obstetric patients and in the patients receiving multiple transfusions.

DISCUSSION AND SUMMARY

This report is based upon the operation of a blood bank from the day of its inception. Technique of management and procedure have improved during this period, and the incidence of non-specific reactions has decreased steadily. The strikingly small percentage of hemolytic reactions can be ac-

counted for by strict precautions at every step, with insistence upon adherence to these rules. The use of concentrated erythrocytes has provided a valuable utilization of red blood cells which would have been discarded otherwise.

Forty-one hundred and sixty-six pints of blood were drawn and 3154 transfusions were given. The incidence of all types of reactions was 7.8 per cent. The incidence of a positive Wassermann was 1.2 per cent in white donors and 14.7 per cent in negro donors. Approximately 70 per cent of the transfusions were given with blood three days old or less. Almost 60 per cent were given to surgical patients.

N.B. Grateful acknowledgment is offered to Mrs. A. W. Collier for assistance in collecting the data.

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A Friendly Gesture.

A recent announcement which should prove of interest to American obstetricians and gynecologists comes from England. It relates to the endowment of a lectureship by an anonymous donor, a Fellow of the Royal College of Obstetricians and Gynecologists. The interest from a fund of one thousand guineas is to be devoted to a lecture every second year alternately by a member of the Royal College on the subject of infertility and by an obstetrician or gynecologist from the United States on any topic selected by him. This would mean that an invitation to an American participant would be possible every fourth year and the honorarium would amount to about seventy pounds or the equivalent of some three hundred dollars.

The Royal College of Obstetricians and Gynecologists was founded in 1929 by W. Blair-Bell of Liverpool who was its first president with William Fletcher Shaw of Manchester as secretary. The latter, after having served as president for the past five years and being knighted, is now retiring from office and is being succeeded by Eardley Holland of London. The endowed lectureship commemorates Sir William Shaw's presidency and the anonymous donor wishes to demonstrate and further the friendship felt by our English colleagues toward the American profession. As such, it is worthy of our gratitude and appreciation. The postwar period with means of communication fully restored should witness the development of closer bonds between the great English-speaking countries. The interchange of ideas through the medium of personal contacts between groups interested in special branches of medicine can accomplish much, not only among the participants, but those whom they serve in a professional capacity. It is to be hoped that these objects may be possible of execution at an early date when the specter of war has been eliminated and opportunity offered again for more peaceful pursuits. (Editorial, *Amer. Jour. Ob. & G.*, Jan., 1944.)

A PRACTICAL METHOD FOR LOCALIZATION AND REMOVAL OF FOREIGN BODIES

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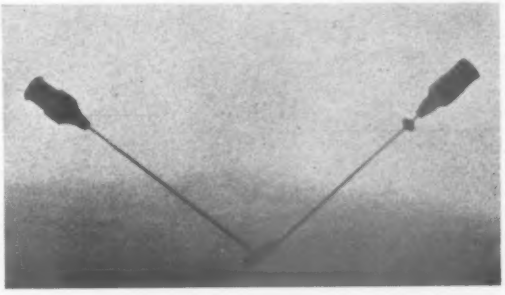
Of all the supposedly minor procedures that the surgeon is called upon to perform, the removal of small foreign bodies is often the most under-estimated. The difficulties and all too frequent failures encountered in this undertaking, can be embarrassing to the surgeon and discouraging to the patient.

With the vast increase in defense projects in this area in the past few months, we have had more than the usual number of foreign body cases. In gunshot wounds the modern high velocity missles frequently pass both in and out. Thus we have comparatively few of these to remove. However, considerable material is available in the nature of smaller metallic foreign bodies from broken tools and gears. The small size of these objects makes them difficult to find at operation regardless of the accuracy of their localization by the usual roentgenologic methods. That others are having similar troubles is testified by cases referred from other clinics in which unsuccessful attempts at removal have been made.

Following a few unhappy experiences of protracted search terminated either successfully or unsuccessfully, we have adopted a very simple and to this date uniformly satisfactory routine on cases of opaque foreign bodies. It should be mentioned at this point that wooden splinters will often fall in this category, and always if there is any trace of lead paint on the wood.

The foreign body is first visualized on the fluoroscopic screen. The skin area over the site is prepared and a ten cc. syringe of 1 per cent novocain with two small calibre needles of sufficient length obtained. Under fluoroscopic visualization one needle is introduced into the skin at a slight angle. Infiltrating novocain ahead, the needle is brought into contact with the foreign body. This can be felt by both the operator and the patient as well as seen on the screen. The syringe is then removed and the needle left in place. The second needle is applied to the syringe and the same procedure repeated from a different point. Thus the points of the two needles meet at the actual site of, and in contact with, the foreign body. The patient is then removed to the operating room and under local anesthesia it is the simplest of tasks to cut down to the point of junction of the needles and remove the foreign body.

While the technique was original with us, a search was made of the literature to see if the same or a similar method had been previously described. Reid, Black and McCaw[1] in 1938 in a very comprehensive study of the subject of foreign body localization have classified all of the more important methods which are on report. As early as 1908, W. I. Bruce[2] invaded the wound with an opaque instrument as an aid in localizing the object. The best known of the methods based on this principle is that of Walter S. Sutton.[3] This was developed in 1915 when he was in charge of an American hospital in France. The



Foreign body in leg localized with two needles.

foreign body was located on the fluoroscopic screen. With the aid of local anesthesia and a small skin incision, a specially constructed cannula and trocar were introduced perpendicularly to the foreign body. The cannula was then removed, the trocar bent to the skin and the patient sent to the operating room for removal.

Several techniques have also been described wherein the complete procedure of removal is carried out with the aid of the fluoroscope. This has the disadvantage of immobilizing busy equipment and trained personnel for considerable periods of time. It is also quite difficult from the standpoint of maintaining perfect asepsis.

In 1939, Sebastian and Kibby[4] reported eight

cases in which foreign bodies were successfully removed. These were localized by means of portable plates taken after the skin incision. Hemostats were fixed to the deeper fascial layers in the vicinity of the foreign body before the plates were taken. These instruments were left in place and used as guides in the subsequent search.

While we do not feel that our technique is necessary in every foreign body case, we do feel that it is a good routine to establish in all cases of any depth. Furthermore, small objects even sufficiently superficial for palpation have been known to become elusive after injection of novocain.

In summary, the following advantages may be cited:

1. Accurate and graphic localization of the foreign body and guides to facilitate its removal are provided.

2. It is a very simple procedure requiring no especial skill.

3. The risk of infection is kept at a minimum, since no roentgenologic procedure is necessary after the skin incision; and no incision is made in the fluoroscopy room.

4. No special instruments are required as in the Sutton technique.

5. Extra expenditure of x-ray plates is unnecessary.

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Medical and Surgical Relief Committee.

There is a critical need for medical and surgical supplies that may lie hidden and forgotten in your office: discarded or tarnished instruments, surplus drugs, vitamins, infant foods. Collected, packaged, sent to the Medical and Surgical Relief Committee, they can play a vital role in its program of medical relief for the armed and civilian forces of the United Nations.

Surgical instruments and medicines are sought-after by physicians and pharmacists' mates of our Navy, are hungrily snatched by the medical corps of our Allies. The work of war-zone hospitals and welfare agencies is too often crippled by the lack of medical supplies. Community nurseries in this country, refugee camps abroad cry out for vitamins and baby foods for their ill-nourished charges.

The Committee has supplied over 900 sub-hunting and patrolling ships of the Navy with emergency medical kits; equipped battle-dressing stations on battleships, destroyers, and cruisers. The Committee's roll-call of medical requests—not one of which has been turned away—reads like a world geography: the Fighting French in North Africa and Tahiti; the Royal Norweigans in Canada and Iceland; the West Indies; South and Central Africa; China; India; Great Britain; Yugoslavia; Greece; Syria; Russia; Alaska and of course, the United States.

To meet the demands that pour into headquarters, the Committee needs all types of instruments, especially clamps, scalpels, forceps, and all kinds of drugs from iodine to sulfa products. By contributing what you can spare, you will help speed another shipment of sorely-needed medical aid.

The address of the Medical and Surgical Relief Committee is 420 Lexington Avenue, New York 17, N. Y.

THE USE OF PENICILLIN IN STATU NASCENDI

F. J. VON GUTFELD, M.D.,*
Richmond, Virginia.

Penicillin, the metabolic product of the fungus Penicillium notatum, is distinguished by its high bacteriostatic efficiency and low toxicity. In July, 1942, the writer received through the courtesy of Dr. A. D. Gardner, Oxford (England), a culture of the original strain which had been isolated by Fleming in 1929.

Nutrient agar inoculated with Staphylococcus aureus. Four "cups" are filled each with two drops of crude penicillin produced in different media. Largest zone of bacteriostasis at G7. Four-fifths of original size.

Experiments *in vitro* revealed the bacteriostatic activity of the crude penicillin. Results of these experiments were demonstrated at the annual meeting of the Medical Society of Virginia in Roanoke, October, 1942. In the meantime modifications in culturing the fungus and new test methods have been tried out.

The final goal, of course, was the therapeutic use of penicillin. The purification of the crude penicillin requires an elaborate and expensive equipment. Since May, 1943, attempts therefore have been made to apply the crude penicillin after the destruction of the living fungus cells.

Whilst these experiments were in progress, Robinson and Wallace published a procedure whereby dressings are inoculated with the living fungus.[1] These dressings are applied to wounds where the produced penicillin acts *in statu nascendi.*

The therapeutical results with this method are gratifying. The most important fact, however, can be seen in the evidence that the living fungus does not cause any damage, but only displays its favorable action in producing penicillin.

Since the purified product will not be available for general use in the near future it is herewith suggested to take advantage in the meantime of the procedure advocated by Robinson and Wallace.

NOTE: Since the above was written this author succeeded in preparing a solution of penicillin which had been administered intravenously to two patients suffering with septicaemia, Staphylococcus aureus in one case, haemolytic Streptococci in the other case. Recovery followed in both patients, and no untoward reactions were observed. These cases will be reported in detail in a subsequent paper.

*From the Department of Bacteriology and Parasitology, Medical College of Virginia, Richmond, Va.

REFERENCE

1. Robinson, G. R., and Wallace, J. E.: An Inoculated Penicillin Dressing. *Science,* Vol. 98, pp. 329-330, October 8, 1943.

Doctors are oxydable products, and the schools must keep furnishing new ones as the old ones turn into oxyde; some of first-rate quality that burn with a great light; some of a lower grade of brilliancy; some honestly, unmistakably, by the grace of God, of moderate gifts, or in simpler phrases, dull.—HOLMES, 1867.

Medicine is the only profession that labors incessantly to destroy the reason for its own existence.—BRYCE, 1914.

War is the only proper school of the surgeon.—HIPPOCRATES, 415 B.C.

Heaven defend me from a busy doctor.—WELSH PROVERB.

CASE REPORT OF MATERNAL DEATH

MATERNAL HEALTH COMMITTEE
MEDICAL SOCIETY OF VIRGINIA

This is a colored 31 year old gravida IV para III, who had been discharged from a sanatorium in 1938 with a diagnosis of positive minimal arrested tuberculosis. The same diagnosis was made in a State clinic in May, 1941. She visited a physician when eight months pregnant, in December, 1941. He stated that she was emaciated, had a rapid pulse, frequent cough, and showed, in the chest, increased evidence of tuberculosis during the past year. At his insistence, she was admitted to the hospital immediately. The hospital record was scant. If an x-ray of the chest was made, a complete physical examination, or laboratory blood work done, it was not reported on the chart. On the day after admission the membranes were stripped from the cervix. Labor pains followed sufficiently severe to require morphine. Contractions stopped. On the next day she was given castor oil and quinine followed by 10 drop doses of ergot every hour for six doses. Extraovular catheters were inserted and spontaneous delivery occurred three hours later. Ergot and morphine were given postpartum and the placenta removed manually thirty minutes after delivery under nitrous oxide anesthesia. There was no abnormal bleeding at any time.

This has been classified by the Committee on Maternal Health as a preventable death. The remarks by the various members were directed toward the management of the patient covering the period beginning before pregnancy and extending through the time of delivery. The patient was discharged from a sanatorium at a time when contraceptive advice should have been given. The record does not comment as to this advice. She became pregnant and was not terminated during the first trimester—a fact chargeable to the patient for not having sought medical advice. Resort was made to various manipulations to induce labor when the patient was near term. No comment was made as to the condition of the cervix.

It is agreed among authorities in obstetrics and tuberculosis that this type patient should not become pregnant. When the condition is confined to the case under discussion it is likely that pregnancy could be prevented by sterilization only. Pregnancy might be permitted in a case in the upper economic level who could be under constant medical observation.

When pregnancy is complicated by tuberculosis, interference is not indicated after the first trimester. Not infrequently the tuberculous patient shows improvement during the second and third trimesters. The first physician to see this patient is to be commended in urging hospitalization; the management of the case after hospitalization is questioned seriously. The number of methods employed in inducing labor indicate that the patient was not at term. The excess manipulation was an added overload. Following delivery the placenta was removed manually, when, rather than a demand for immediate removal, there was every reason for leaving it alone. There was no bleeding and the patient was a poor risk. Death occurred suddenly thirteen hours later and the cause was given as "circulatory collapse".

Pregnancy in this case should have been prevented by contraceptive methods or by sterilization. Since pregnancy did occur it should have been terminated during the first trimester. The pregnancy was not terminated and, on that account, the patient should have been permitted to go into labor spontaneously unless the cervix showed the patient to be at term. Many reasons have been given for deaths occurring after delivery in patients having tuberculosis, among which are shock, blood loss that would not be fatal to the average patient and to pulmonary decompression. No autopsy was done. The end result may have been the same in this case regardless of the procedure but the suggested treatment would have received general support.

PUBLIC HEALTH

I. C. RIGGIN, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for November, 1943, compared with the same month in 1942, and for the period of January through November, 1943, compared with the same period in 1942, follows:

	Nov. 1943	Nov. 1942	Jan.-Nov. 1943	Jan.-Nov. 1942
Typhoid and Paratyphoid Fever	16	16	211	238
Diarrhea and Dysentery	259	107	5,429	4,471
Measles	856	31	10,521	4,373
Scarlet Fever	227	304	1,634	1,456
Diphtheria	49	117	362	632
Poliomyelitis	4	3	60	41
Meningitis	31	12	804	151
Undulant Fever	3	3	36	32
Rocky Mountain Spotted Fever	2	2	55	47
Tularemia	6	0	46	33

CONTROL OF TOXIC PRODUCTS IN THE WORKING ENVIRONMENT

The safety factor involved in the current use of toxic materials in industry is complicated to a degree hitherto unknown. Speed up of production, rapid turnover of employees and resulting inexperience, lack of adequate employee supervision in the handling of such materials, substitution through necessity of more toxic materials for less toxic ones, and laxity in control associated with the maintenance of war production are important influences affecting this vital problem. In view of these unavoidable hazards it is essential that as rigid a control as possible be established over the use of toxic materials in war-time manufacturing.

Such control can be secured through: 1. A scientific industrial hygiene survey of the plant; 2. Keeping abreast with improvements of materials; 3. Substituting less toxic materials whenever possible; 4. Establishing procedures for improved control, including mechanical installations and protective equipment; 5. Pre-employment physical examination for those assigned to processes involving toxic environments or the handling of toxic materials with special reference to established laboratory procedures; and 6. Routine, periodic physical check on all employees working with toxic materials, with rest for a prescribed period or transfer to a non-toxic environment of such individuals showing symptoms of toxicity.

By the adoption of the above mentioned rules (which calls for complete cooperation between the purchasing, safety, and medical departments of an industry), serious physical damage from exposure to toxic materials in every manufacturing process practically can be prevented. In this connection, medical and engineering industrial hygiene services continue to be available to Virginia industries through the Bureau of Industrial Hygiene, State Department of Health, Richmond.

WOMAN'S AUXILIARY
to the
MEDICAL SOCIETY OF VIRGINIA

President—MRS. W. CLYDE WEST, Alexandria.
President-Elect—MRS. PAUL C. PEARSON, Turpin.
Recording Secretary—MRS. C. C. SMITH, Norfolk.
Corresponding Secretary—MRS. N. G. SCHUMAN, Alexandria.
Treasurer—MRS. REUBEN F. SIMMS, Richmond.
Chairman, Press and Publicity—MRS. E. LATANE FLANAGAN, Richmond.

The Old Year and the New.

A REPORT OF LAST YEAR

The report on the Auxiliary work for the year 1942-1943 was made by last year's president, Mrs. H. W. Rogers, to the House of Delegates of the Medcial Society of Virginia in Roanoke, and appears on page 626 of the December 1943 MONTHLY.

A CHALLENGE FOR THIS YEAR

With the advent of the New Year, I am most happy to greet you, to congratulate you upon the past year's achievements, and to wish for you an approaching year of happy and successful work, brimming over with cheer.

The program of activity, as outlined at the annual convention in Roanoke last October, offers many ways in which we may participate in the suc-

cess of our State Auxiliary and the fulfilling of its purposes.

As your County Auxiliary is contacted throughout the coming year by each chairman of the State Auxiliary and her plan laid before you, nothing can mean more to the State Auxiliary than having each individual member accept the request and "carry through" to make it possbile for her local chapter to turn in a response of one hundred per cent.

The reports submitted at the annual convention in 1943 were most encouraging, representing very wonderful work being done by the County Auxiliaries throughout the State. I compliment each and every member in Virginia, and urge you to put every endeavor into the present year and bring our Auxiliary through these trying days to a glowing conclusion of 1944, outshining any year that has ever gone before.

Cordially and sincerely yours,

EUNICE WEST,
(MRS. W. CLYDE)
President.

The Norfolk Auxiliary

Met on November 17th in the Library of the Medical Arts Building under the presidency of Mrs. R. M. Reynolds. Mrs. D. W. Hudgins, representing the Camp and Hospital Council of the American Red Cross, addressed the gathering on the need of recreational rooms for the service men in the camps in this area. Mrs. Hudgins said the people of Norfolk had contributed more generously than many realize towards these comforts. Already, more than 75 recreational rooms among the 375 camps in this area have been equipped by individuals and organizations in Norfolk. The Auxiliary voted to sponsor one of these rooms and have it ready before Christmas. Mrs. W. E. Butler was named Chairman of this project and will have Mrs. C. M. McCoy as her Co-Chairman.

Mrs. J. W. Reed read a paper on the Contribution to Modern Medical Science that was made by Mrs. Jane Todd Crawford in 1809, when she submitted to the first operation performed in this country for an ovarian tumor.

CLARA P. BROCK,
(MRS. M. F. BROCK)
Chairman, Press and Publicity.

Accomac-Northampton Auxiliary.

The regular quarterly meeting of this Auxiliary was held at "Whispering Pine Lodge" in Accomac on November 18th. A delicious turkey dinner was followed by the business meeting, with the president, Mrs. O. R. Fletcher, Sanford, presiding. Mrs. J. L. DeCormis, Accomac, gave a delightful account of the State meeting held at Roanoke, saying that the high spots of the meeting were the celebration of the 21st Birthday of the Auxiliary and short sketches of their year's work given by the past presidents. She then read a poem "The Doctors' Wives". The Auxiliary was very proud to learn that it had again received the Silver Vase for the largest percentage of attendance at their meetings. The vase is to be again engraved with their name and will be on display at the Northampton-Accomac Hospital.

The new officers for the year 1944 are as follows: President, Mrs. W. Carey Henderson, Nassawadox; vice-president and president-elect, Mrs. John T. Mears, Keller; secretary, Mrs. W. T. Green Nassawadox; and treasurer, Mrs. J. Fred Edmonds, Accomac.

The Auxiliary voted to send their annual Christmas check to the Hospital, with the best wishes of all the members to the Superintendent.

The January meeting will be with Mrs. Rooker White at Keller on the second Tuesday of the month.

CATHERINE R. TROWER,
(MRS. HOLLAND)
Chairman, Press and Publicity.

BOOK ANNOUNCEMENTS

Books received for review are promptly acknowledged in this column. In most cases, reviews will be published shortly after the acknowledgment of receipt. However, we assume no obligation in return for the courtesy of those sending us same.

The Compleat Pediatrician. Practical, Diagnostic, Therapeutic, and Preventive Pediatrics. For the use of Medical Students, Internes, General Practitioners, and Pediatricians. By WILBURT C. DAVISON, M.A., D.Sc., M.D., Professor of Pediatrics, Duke University School of Medicine, and Pediatrician, Duke Hospital; Formerly Acting Head of Department of Pediatrics, The Johns Hopkins University School of Medicine; etc. Fourth Edition. Duke University Press, Durham, N. C. 1943. vi-256 pages and Index. Cloth. Price $4.00.

Care and Feeding of Children. Revised and Enlarged by L. EMMETT HOLT, JR., M.D., Associate Professor of Pediatrics, Johns Hopkins University; Associate Pediatrician, Johns Hopkins Hospital, Baltimore, Maryland. D. Appleton-Century Company, New York. 1943. xv-321 pages. Cloth. Price $2.00.

Surgical Errors and Safeguards. By MAX THOREK, M.D., LL.D., D.C.M., F.I.C.S., Professor of Surgery, Cook County Graduate School of Medicine; Attending Surgeon, Cook County Hospital; Surgeon-in-Chief, American Hospital; etc. With a Foreword by Sir Hugh Devine, M.S., Hon. F.R.C.S. (Eng.), F.R.A.C.S., F.A.C.S. (Hon.), F.I.C.S. (Hon.), Past President, Royal Australasian College of Surgeons; etc. And a Chapter on Legal Responsibility in Surgical Practice by Hubert Winston Smith, A.B., M.B.A., LL.B., M.D., Associate in Medical-Legal Research, Harvard Law School and Harvard Medical School. J. B. Lippincott Company, Philadelphia. 1943. Fourth Edition, Completely Revised. 794 Illustrations, Many Colored. xvii-1085 pages. Cloth. Price $15.00.

Nascent Endocrine Therapy. By JOHN FRANKLIN RITTER, M.D., Maquoketa, Iowa. The Caxton Printers, Ltd., Caldwell, Idaho. 1940. 317 pages. Cloth.

The Boy Sex Offender and His Later Career. By LEWIS J. DOSHAY, M.D., Ph.D., Psychiatrist, Children's Courts, New York City. Foreword by George W. Henry, M.D., Associate Professor of Clinical Psychiatry, Cornell University Medical College; etc. New York, Grune and Stratton. 1943. 248 pages. Cloth. Price $3.50.

This is an important contribution in social pathology. The author has followed two groups of children, with behavior disorders, to adult life to determine the factors responsible and the efficacy of treatment received. One group was composed of juveniles with sex delinquencies only; the other group had shown delinquencies of all types. They find that poor home environment in general is the most significant factor concerned in both, ranging from alcoholism to mere lack of sex instruction. The results make one feel that delinquency would be negligible if certain parents were not permitted to have children.

One interesting finding is that when the sex offenders are tried in juvenile court before their parents, they are always extremely ashamed and almost never repeat the offense, indicating the importance of court trial, rather than attempting to keep the matter private. However, the mixed type of offender is usually unrepentant and defiant, and even boastful of such crimes as assault and burglary. This group shows much less improvement from social therapy, and it is apparently from such types that vicious adult sex offenders come. The reviewer believes that the ease with which sex offenses cause shame, as compared to assault and burglary, is probably related to the curious phenomenon of our civilized mores, that whereas books on murder mysteries are socially acceptable, magazines with illustrations of "pin-up girls" are investigated at great length in the midst of a war, by prissy postal officials.

The author is forced to the conclusion that more sex instruction to children is essential, and, although the home should be the place for this, that ignorance, disinterest, or fanaticism among many parents makes this impossible, necessitating its placement in school curricula.

This book is required reading for social workers in this field, for all judges of juvenile courts, and for physicians who have to handle the problem of juvenile sex delinquencies. Unfortunately the book is extremely dry reading, but it is a worthwhile contribution.

R. J. M.

Synopsis of Tropical Medicine. By SIR PHILIP MANSON-BAHR, C.M.G., D.S.O., M.D., F.R.C.P., Senior Physician to the Hospital for Tropical Diseases, Royal Albert Dock and Tilbury Hospitals; Consulting Physician in Tropical Diseases to the Dreadnought Seamen's Hospital, London; etc. The Williams and Wilkins Company, Baltimore. 1943. 224 pages. Cloth. Price $2.50.

This book is a concise presentation of tropical medicine, written with a maximum of facts in a minimum of words. The pages are crammed with information presented in a manner especially suitable for those who wish an accurate summary of the chief clinical features, pathology, laboratory findings, differential diagnosis and treatment of tropical diseases.

The contents of the book encompass the protozoal, spirochetal, rickettsial, bacterial, virus, fungus, nutritional, and climatic diseases. Vegetable and animal poisons are briefly discussed, but there is a rather complete section on metazoal diseases and infections. Only the essential facts, necessary to make a diagnosis, prevent, or treat a tropical disease are given.

This is not a textbook of tropical medicine, but an up-to-date "synopsis" of our knowledge in this specialized field.

B. LEVY.

VIRGINIA MEDICAL MONTHLY

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VOL. 71 JANUARY, 1944 No. 1

Report of the State Legislative Commission

OF interest to the medical profession generally and of momentous importance to physicians of Virginia is the report to be submitted to the next General Assembly by the "Commission for the Study of Matters pertaining to the Right to Practice the Healing Art in Virginia". Such a report presumably is the product of thorough and unbiased consideration of the subjects involved and as such should have great weight not only with Legislators but also with all citizens whose obligation it is to promote the health of the Commonwealth. Perusal of the report, however, confirms a suspicion that existed in the minds of many, from the time the Commission was authorized, that it was not what it was presumed to be.

When the Commission was first proposed by Mr. Campbell, it was welcomed by medical men who anticipated the selection of men of judicial temperament, unhampered by political commitments, who might find a satisfactory solution for a vexing problem and relieve doctors permanently of a heavy and disagreeable biennial responsibility. Little time elapsed before it became apparent that this was not intended. The speaker of the House very promptly appointed three Delegates who were either outspoken champions of cultists or whose sympathies were unmistakably with them. From the Senate were appointed two whose positions might be expected to balance each other and thus a majority of the Commission favoring the debasement of educational requirements for practice in the State was immediately secured. Due to defeat in the primaries or resignation, the personnel of the Commission, so far as the political appointees is concerned, has changed somewhat, but its complexion remains the same.

The two appointees of the Governor are not politicians, one being a scholarly lawyer of unimpeachable reputation and the other a distinguished college President. As the

Commission's report relates and as was to be expected, there developed after the initial meeting a "wide divergence of view" between the political members on the one hand and the non-political members on the other. As a result, a majority report has been rendered by the political members which was so objectionable as to call forth a minority report from the two independent thinkers.

Both reports recognize the need for a measure of scientific training for those who treat the sick and both advocate requiring that members of all cults pass an examination in the basic sciences before being licensed to practice. While such a requirement is a long step downward from the high standards set for medical licensing, many physicians agree to the principle involved. It is believed that those who have even a superficial training in science would rarely be cultists and it is well known that schools of cultists afford no opportunity for such training.

But when one examines the proposal for a basic science board contained in the majority report, one marvels at the ingenuity of the political mind. Or can it be naivete? It is proposed that the board consist of five members, three of whom are to be cultists, and two teachers from medical schools who are not practitioners of medicine. What function the last two are to perform is not specified; perhaps it is to lend tone to the board. Conference with their colleagues concerning the performance of their supposed duties would be like discussing astronomy with the Reverend John Jasper. One has to conclude that the only possible object that these statesmen had clearly in mind was the control of the basic science board by the cultists who are in the majority. This would make of any examination by such a board a complete farce. If it were seriously intended to examine candidates upon their knowledge of science, this could be done by the two teachers suggested or more or by the basic science section of the present medical examining board as suggested in the minority report. Thus the expense of another board would be avoided and the examination would be the same for science is science and does not bend to opinion.

As was expected, the Commission recommends that those practitioners of Chiropractics and Naturopathy now operating illegally in the State be licensed, provided that they have persevered in their activities for as much as four years and that they present certificates of good moral character. It is explained that this is a custom which should not be departed from. The Commission seems to lose sight of the fact that, in the past, requirements have always been raised. In the present instance, if the recommendation of the Commission prevails, the requirements for practice will, for the first time in the history of the Commonwealth, be lowered. Does the Commission believe that succeeding generations of lawbreakers, having completed their four years of "probation" will fail to importune a benign Legislature for recognition? Other cults, of which there are legion and which have been slighted by our Statesmen in favor of the more vocal and politically potent chiropractors and naturopaths, will flock to Virginia, lured by the prospect of so generous a reception. Presumably, persistent lawbreaking is, in the eyes of this Commission, additional evidence of good moral character and merits reward.

The Commission recommends an injunction procedure to be invoked after one conviction. This was proposed by the Medical Society of Virginia to the last General Assembly and was rejected. It would be of the greatest value if any illegal practitioners were left to whom it might be applied; but, under the Commission's recommendation, it will be comparatively simple for any one to practice legally, if not as a chiropractor, then as a naturopath.

On the whole, the report of the Commission is, to say the least, disappointing. It is difficult to understand the attitude of those who are willing to tear down what has

been erected by the toil and sweat of several generations of physicians in order to serve what they seem to consider political expediency. It is true that a considerable number of citizens have always patronized quacks just as they have craved narcotics, but no one questions the regulation or even the prohibition of the latter. It is also true that several States, but by no means a majority, have permitted what amounts to the free and unlimited practice of quackery, but this has come about through political pressure and there is nothing in the record of these States to indicate that Virginia should step down with them. The members of the Commission were duly warned by the State Board of Health and by the Department of Public Welfare of the disastrous effects of the legislation now proposed upon the work of these agencies; and by the State Department of Education of the danger of lowering educational standards. They were informed that neither chiropractors nor naturopathy is recognized as a science by any respectable university or scientific body in the whole world and this assertion could not be challenged by the cultists present. Yet from the high pedestal of the politician, the Commission asserts that chiropractics and naturopathy are sciences and must be given legal recognition as such.

It is depressing to realize that we face another General Assembly in *statu quo*. The proposal of the majority of the Commission for licensing chiropractors and naturopaths, while it is couched in somewhat different language, is to all intents and purposes the same old bill introduced many times in the past by the cultists themselves and many times defeated.

Medical Manpower

THIS problem might be divided into two parts, present need and future need. In other words one part of the problem is what the civilian population and the Armed Forces need now and the other is what the doctor will need at the end of the war. We must meet the emergency that faces us, and, by the same token, we must meet the needs of those men who have given up so much, when they come back after the war.

In round numbers 40,000 doctors is the requirement of the Armed Forces at present. Two thousand doctors will be needed for annual replacements. For this purpose it is estimated that 1,250 of the new graduates will be available. Next year 48,000 doctors will be needed. Some 7,000 civilian doctors have been declared available, but these have shown no intimation of applying for commissions. The authorities say bluntly that a new technic will have to be employed to reach these men. The volunteer system is through. The Army is doing its best to make the available manpower go as far as possible. Doctors that formerly served at the front have been replaced by corps men who have been trained in rendering first aid, which now includes giving plasma transfusions, hypodermic injections of morphine and applying pressure dressings. The doctors are kept back of lines where they are more useful. In the training areas in this country fewer and fewer doctors are available for attending service men's families.

In civilian life the shortage of doctors is just as acute and replacements fall just as far short as in the Army and Navy. For the next two years this increasing shortage can be counterbalanced by extra effort on the part of individual doctors. It must be remembered, however, that the doctors who have been left to the civilian population are the old and the physically incapacitated and the losses in this group will occur with increasing rapidity. Should the war last three or four years, as well it may, the situation will become critical.

At the end of the war the problem will be to supply the needs of the returning doctor. The American Medical Association has an able committee that is studying this

problem. Twenty thousand of the doctors now in the service have not engaged in practice. They will need placement. Most of them will have had only nine months of internship. They will want further hospital training. There must be available internships and residencies and scholarships. The older men will probably want refresher courses. Many will not want to go back to their former locations. The population of the country will have shifted tremendously, and the people will want a better distribution of medical services. Rural medical care will still be a headache after the war. There must be State postwar planning committees whose function will be to help locate the returning doctor advantageously and to help the various local areas secure adequate medical care.

Wartime Medical Meetings

IN the two years that our country has been at war many medical meetings have been called off, chiefly on account of the increased burden upon the transportation system that these meetings would cause. It has also been argued that with one-third of the doctors gone to war, the remaining doctors did not have time to attend a medical meeting. Of course, it could be argued with more truth that the increased burden of the civilian doctor was the very reason he should attend medical meetings. He cannot neglect anything that will increase his efficiency. The recent meeting of our State Society evidently supplied a need of Virginia doctors for the attendance was exceptionally good. Nor was there any difficulty with transportation.

Recently the editor attended a larger meeting in Cincinnati and a small meeting in Chicago. In this case he encountered considerable transportation difficulty. By starting negotiations early he was able to secure Pullman and hotel reservations. One-half of the menu card on the Big Four diner was taken up with statements about wartime travel. We were reminded that there were fewer Pullman cars and less food and more travelers and that many of the niceties of peacetime travel have been done away with. On the other hand we came in contact with more Americans than we ever dreamed existed. They were good-natured, determined, and seemed to know what they were about. It was a revelation to be jostled by these crowds. One stood in line for practically everything—to get on trains, to register at hotels, and to get into restaurants. In Chicago we were in line forty-five minutes by the clock, and all in line ahead of us had confirmed reservations. Our experience with queues made reading *Paris Underground* more realistic. We may have added a mite to the burden of the transportation system but we certainly were made a better American by our experience.

The meeting of the Southern Medical Association was notable for a number of reasons. For the first time in history the Association met north of the Ohio River. The program was streamlined so as to take only three days. Many of the exhibits and papers showed a distinct military flavor. For instance, the three papers of the Section on Pediatrics were (1) studies in measles prophylaxis, a study undertaken by the Research Council of the War Department, (2) ultracentrifugal, chemical and electric identification of the influenza virus, and (3) sandfly disease, observation on the natural and experimentally reproduced disease, an investigation of the Preventive Medicine Division of the United States Army. There were three papers on penicillin, one paper of refrigeration anesthesia, and one upon the treatment of sulfonamide-resistant gonorrhea in an army general hospital. The paper on treatment of obstinate cases of eneuresis by pre-sacral neurectomy showed how one could make soldiers out of unfortunate men who would otherwise have to be discharged from the Army. The paper upon virus pneumonia centered upon the way of knowing when the convalescent could be returned to military duty. We cite these papers to show the range of subjects dis-

cussed and their up-to-dateness. The address of Surgeon-General Norman T. Kirk upon the care of battle casualties and the causal sick, and the description of General Fred W. Rankin of his trip around the world were greatly enjoyed. Unfortunately, we did not hear Major Charles M. Caravati's paper on post-hepatitis syndrome, but we heard it well spoken of. From the exhibits we learned that the magnesium ion would relax a tetanically contracted human pregnant uterus in 30 seconds. In another exhibit charts showed that the average length of life has increased from 48 years in 1900 to 63 years in 1940, which means that 2,800,000 men of ages 20 to 45 have been added to America's fighting and producing forces.

The meeting in Chicago was that of the Annual Conference of Secretaries and Editors of Constituent State Medical Associations. James E. Paullin, President of the American Medical Association; Herman L. Kretschmer, President-Elect of the American Medical Association; Deputy Surgeon-General George F. Lull; Victor Johnson, Secretary, Council on Medical Education and Hospitals, and Commander Lapham discussed the present military needs and postwar planning for doctors. General Lull divided the medical profession into three groups: those in armed forces, the old and essential, and those who do not care for military service. The latter is a small group, but it is causing a great deal of concern and is giving the profession a bad name.

Another session was given over to the discussion of obstetric and pediatric care for the wives and children of service men as administered by the Children's Bureau. All but three States have "accepted" the plan, although it seems from the discussion the acceptance was anything but voluntary. As the representative from North Dakota expressed it: "We have refused to be browbeaten into acceptance of the plan." He boasted of his Governor who so managed public opinion in the State that they could maintain their independence. Dr. Kress of *California and Western Medicine* raised the point that the millions of deliveries all over the country which are being paid for by the government at from $35 to $50 per case would fix in the mind of the public that this is the standard fee in normal times. The public knows that the government pays top prices for everything else it buys and will naturally think that the $35 to $50 is also top price. It was quite evident that there is a widespread feeling that the Emergency Maternity and Infant Care service is an entering wedge of federal controlled medicine, or as was stated, "a foot-in-the-door". One speaker called it "two feet in the door". Everyone must agree with the aims and purposes of the EMIC plan. It is to be regretted that politics should place so many obstacles to the smooth working of the plan.

Our New Cover

TO keep up with the spirit of the times, the MONTHLY comes out this month in a new dress. We hope that it pleases our readers. The space in the lower right hand corner, occupied by the Staff of Aesculapius, is reserved for the original seal of the Medical Society of Virginia. This is described in the Proceedings of the Society for November, 1873, but we have no illustration of the seal. It bears the inscription "*Sigillum Societatis Medicae Virginiae*". Anyone knowing a picture of the seal or the whereabouts of the seal itself would confer a great favor on us by giving us this information. This would also make it possible to increase the attractiveness of our cover.

Societies

Richmond Academy of Medicine.

The annual meeting of the Academy was held on December the 14th, with the president, Dr. A. S. Brinkley, presiding. Following reports of committees on the year's work, the following were elected as officers for 1944: Dr. E. H. Terrell will automatically become president; Dr. T. Dewey Davis was elected president-elect; Dr. Douglas Chapman and Dr. J. E. Warinner, Jr., vice presidents; and Dr. John Lynch and Dr. Rex Blankenship the two new members of the board of directors. It was stated that approximately one-fourth of the membership of the Academy are now with the armed forces. Following the meeting, the doctors adjourned to the dining room where a special buffet supper was served.

Medical Society of Northern Virginia.

At the annual meeting of this society, held recently, Dr. Charles O. Dearmont of White Post was elected president for the ensuing year, succeeding Dr. D. M. Kipps of Front Royal. Dr. B. B. Dutton of Winchester was chosen vice-president, and Dr. J. E. Harris, also of Winchester, was re-elected secretary-treasurer.

Norfolk County Medical Society.

Dr. Claiborne Willcox has been elected president-elect of this Society to fill the vacancy caused by the death of Dr. Frederick C. Rinker.

Virginia Peninsula Academy of Medicine.

The Academy held its December meeting on the 20th at the Coca-Cola Recreation Building in Newport News, a social hour preceding the meeting. The speaker for this meeting was Lieutenant Commander Edward L. Alexander, formerly of Newport News and first president of the Academy. His topic was "Evaluation of Physical Medicine Procedures in War and Peace". Dr. Alexander recently completed a six months' graduate course in physical medicine at the Mayo Clinic.

Dr. Waverly R. Payne of Newport News is president and Dr. R. H. Wright of Phoebus secretary-treasurer of this organization.

The Mecklenburg County Medical Society,

A component part of the Fourth District and Southside Virginia Medical Association, at its meeting on December the 10th, re-elected Dr. W. J. Ozlin of South Hill as president and Dr. W. W. Wilkinson of La Crosse as secretary-treasurer. The Society at this time also approved the State Examiner system in place of the present coroner system.

Roanoke Academy of Medicine.

The December meeting of the Academy was in the form of a dinner meeting at Hotel Roanoke on the 6th, with Dr. A. M. Groseclose presiding. Speakers on this occasion were Dr. Warren T. Vaughan of Richmond, who spoke on "The Broad View in the Treatment of Allergy", and Dr. H. B. Mulholland, Charlottesville, whose subject was "Diabetes Mellitus".

The January meeting on the 3rd, will have to do with Industrial Medicine. Host for this meeting will be the American Viscose Corporation, located in Roanoke, and Dr. John F. Cadden, medical director of the plant, will have charge of the program.

News

Committees of the State Society.

In error, the personnel of the ADVISORY COMMITTEE TO THE WOMAN'S AUXILIARY was omitted in the list published in the December MONTHLY. This is composed of Dr. H. A. Latane of Alexandria as chairman, and Dr. D. C. Wilson and Dr. O. O. Ashworth.

A new committee, to be known as the MENTAL HYGIENE COMMITTEE, has since been appointed by President Bowyer, and this is composed of Dr. Joseph E. Barrett of Williamsburg as chairman, and Dr. D. C. Wilson, University; Dr. R. Finley Gayle, Richmond; Dr. C. F. Graham, Wytheville; and Dr. O. B. Darden, Richmond.

Medical Graduates.

UNIVERSITY OF VIRGINIA

There were fifty-four graduates in medicine at the University of Virginia, the commencement being held on December 13th. Only brief and simple exercises were held, Dr. Harvey E. Jordan, Dean of the School of Medicine, presenting the graduates, and President John Lloyd Newcomb conferring the degrees. The following are graduates with their hospital appointments:

UNIVERSITY OF VIRGINIA HOSPITAL, Charlottesville: Drs. Frank Smoot Beazlie, Jr., Newport News; Henry Boone, Jackson, N. C.; Lenora Virginia Brown, Charlottesville; George Benjamin Carter, Charlottesville; Peyton Randolph Evans, Jr., Washington, D. C.; Walter Cleveland Fitzgerald, Crewe; Innes Correll Haines, Arlington; Willard Chappell Hewit, Elizabeth City, N. C.; Garnett William Link, Danville; and Edgar Newman Weaver, Grosse Pointe Park, Mich.

MEDICAL COLLEGE OF VIRGINIA HOSPITALS, Richmond: Dr. Loren Francis Parmley, Jr., Falls Church.

NAVY HOSPITAL, Portsmouth: Dr. William Clayton Barr, Virginia Beach.

LAKESIDE HOSPITAL, Cleveland Ohio: Drs. Thomas Grasty Bell, Staunton; Donald Terrell Faulkner, Blackstone; and William Lunsford Long, Jr., Raleigh, N. C.

CLEVELAND CLINIC, Cleveland, Ohio: Dr. Maurice Miller Bray, Charlottesville; Charles Milton Clark, Akron, Ohio; and William Edwin Hoy, Jr., Columbia, S. C.

CINCINNATI GENERAL HOSPITAL, Cincinnati, Ohio: Dr. William Gordon Leary, Charlottesville.

U. S. PUBLIC HEALTH SERVICE, Staten Island, N. Y.: Dr. Jose Angel DeJesus, San Juan, P. R.; Robert Ernest McAlpine, Portsmouth; Howard Elmer Smith, Lincoln Park, N. J.; and Walter Dickenson Woodward, Richmond.

NEW YORK POST GRADUATE HOSPITAL, New York, N. Y.: Dr. Elizabeth Harman Hill, Charlottesville.

NEW YORK HOSPITAL, New York, N. Y.: Drs. Francis Charles Jackson, Rutherford, N. J.; and Louis N. Waters, Portsmouth.

PRESBYTERIAN HOSPITAL, New York, N. Y.: Dr. Carl Millard Lang, Charlottesville.

KING'S COUNTY HOSPITAL, Brooklyn, N. Y.: Dr. Henry Rankin Miller, Washington, D. C.

BELLEVUE HOSPITAL, New York, N. Y.: Dr. Lee Elias Whitlock, Jr., Norfolk.

NAVY HOSPITAL, Bethesda, Md.: Dr. Joseph Shelton Bower, Salem.

HOSPITAL FOR THE WOMEN OF MARYLAND, Baltimore, Md.: Dr. Mary Martin Wade, Charlottesville.

ST. JOSEPH'S HOSPITAL, Reading, Pa.: Dr. Raymond Reuben Comess, Norfolk.

PHILADELPHIA GENERAL HOSPITAL, Philadelphia, Pa.: Drs. Julian Quayle Early, Bridgewater; and Leonard Irving Malis, Atlantic City, N. J.

PENNSYLVANIA HOSPITAL, Philadelphia, Pa.: Dr. Robert Steele Hutcheson, Lexington.

UNIVERSITY OF PENNSYLVANIA GRADUATE HOSPITAL, Philadelphia, Pa.: Dr. John Robert Troxell, New York, N. Y.

CHILDREN'S MEMORIAL HOSPITAL, Montreal, Can.: Drs. Kelley King Davis, Waynesboro; and Anne Newhall, Brookline, Mass.

MONTREAL GENERAL HOSPITAL, Montreal, Can.: Drs. Harper Keith Hellems, Charlottesville; and Helen Wickham Taylor, Charlottesville.

HARTFORD HOSPITAL, Hartford, Conn.: Dr. Frederick John Flynn, Jr., Ft. Lauderdale, Fla.

GEORGE WASHINGTON UNIVERSITY MEDICAL SCHOOL, Washington, D. C.: Dr. William Lipscomb Jamison, Manassas.

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL, Washington, D. C.: Dr. Charles Miller Walsh, III, Crewe.

CITY OF ST. LOUIS HOSPITAL, St. Louis, Mo.: Drs. Charles Emerson Liddington, Alexandria; and Harold Vernon Palmer, Erwin, Tenn.

ST. LOUIS CLINIC, St. Louis, Mo.: Dr. Cardwell Camden Nuckols, Charlottesville.

WHEELING HOSPITAL, Wheeling, W. Va.: Dr. King Arcy Jamis, Blacksburg.

SWEDISH HOSPITAL, Seattle, Wash.: Dr. Marion Cooper Lindel, Raymond, Wash.

BAYLOR UNIVERSITY HOSPITAL, Baylor, Tex.: Dr. Robert E. Lee McNeely, Danville.

NEWARK CITY HOSPITAL, Newark, N. J.: Dr. Howard Everett Medinets, Perth Amboy, N. J.

BOSTON CITY HOSPITAL, Boston, Mass.: Dr. Henry Clarkson Meredith, Jr., Norfolk.

EMORY UNIVERSITY HOSPITAL, Emory, Ga.: Dr. John Langdon Moss, Richmond.

UNIVERSITY OF IOWA HOSPITAL, Iowa City, Ia.: Dr. Robert William Sjogren, Blacksburg.

Dr. John W. H. Morgan, Ewing, was also a graduate in this class.

MEDICAL COLLEGE OF VIRGINIA

The one hundred sixth Commencement Exercises of the College were held on December 18th at The Mosque. The Commencement Address was given by John Temple Graves, Litt.B., D.C.L. This year there were seventy-four graduates in medicine; twenty-six in dentistry; and nine in pharmacy.

The following are graduates in medicine:

DAVID DEXTER ABELOFF, Richmond.
*JOHN STANARD ARCHER, JR., Richmond.
RICHARD ALBERT BAGBY, Richmond.
†WILBUR JAMES BAGGS, JR., Richmond.
HOWARD EUGENE BALDINI, Union City, N. J.
*ROBERT HARDY BARNES, JR., Richmond.
*ROBERT PAYNE BECKWITH, JR., Roanoke Rapids, N. C.
*PAUL EDGAR BRADY, Newark, Ohio.
ALBERT COMPTON BRODERS, JR., Rochester, Minn.
MARY TOM BUNTING, Portsmouth.
*ELLSWORTH FERRELL CALE, Charleston, W. Va.
*WAYNE CALHOON CAMPBELL, Chester, W. Va.
*FAY ASHTON CARMINES, Odd.
ALIZE COLE, Chilhowie.
*WILLIAM HENRY COX, Suffolk.
*WALTER FRANK DAUGHTREY, JR., Holland.
*JAMES JEFFERSON DAVIS, Connelly Springs, N. C.
*WIRT LEE DAVIS, JR., Darlington, S. C.
*GEORGE HENDERSON LEE DILLARD, Richmond.
*MILTON ENDE, Petersburg.
*HENRY EDWIN ERNST, Washington, D. C.
*WILLIAM WINFREE FARLEY, Richmond.
*ROBERT HENRY FENNELL, JR., Richmond.
*FRANK MICHAEL FERRANTE, New York, N. Y.
GEORGE WASHINGTON FISHBURN, San Diego, Calif.
IRVING EDWIN FIXEL, Richmond.
*CHARLES PHILLIP FORD, JR., Richmond.
*EUGENE FREUNDLICH, Fincastle.
*JOHN BURTT FULLER, Chester.
†JAMES COFER GALE, Waverly.
JAMES SIEBERT GAMBLE, Lincolnton, N. C.
*THOMAS VANCE GOODE, JR., Statesville, N. C.
†MASTON LEWIS GRAY, Huntington, W. Va.
BROOKE MARGARET GREANEY, Honolulu, Hawaii.
*WILLIAM NELSON GREEVER, Chilhowie.
†ROBERT ARNOLD HOFFMAN, Richmond.
SARAH HULDAH HOOVER, Richmond.
*GEORGE WATSON JAMES, III, Richmond.
*ALEXANDER CHARLES JOHNSON, Nogales, Ariz.
WILLIAM RICHARD KAY, Richmond.
*FRANK ROBERT KELLY, JR., Richmond.
†QUENTIN JAMES LEGG, Charleston, W. Va.
*OTIS EVERETTE LINKOUS, JR., Welch, W. Va.
*FRED CARLTON MCCALL, Norton.
*JOHN GRAHAM MCCOWN, Rockbridge Baths.
†JAMES EDWARD MCGEE, JR., Roanoke Rapids, N. C.
SHIRLEY SUE MARTIN, Huntington, W. Va.
*VIRGIL ROBERT MAY, JR., Richmond.
FRANK FERDINAND MERKER, Richmond.
*WOODROW WILSON MILLS, Kenova, W. Va.
*WARREN LODOWICK MOORMAN, JR., Salem.
*ROBERT LORD MORRISON, Staunton.
MARION BAILEY MURDOCK, Richmond.
MARGARET BESS OBENSCHAIN, Staunton.
RUTH O'NEAL, Dunn, N. C.
*EDWIN JOHNSON OTIS, Ashland, Ky.
*JOHN MARVIN RATLIFF, JR., Richlands.
†CHARLES HOLLAND RAWLS, Suffolk.
*WILLIAM HERVEY REMINE, JR., Richmond.
*ASHBY TURNER RICHARDS, Harrison.
*BILL BALLARD RICHMOND, Beckley, W. Va.
*GEORGE SAMUEL ROWLETT, JR., Richmond.
*ROBERT SAUL SALISBURY, Richmond.
*DONALD CONRAD SCHWEIZER, Ramsey, N. J.
CYRIL IREDELL SEASE, JR., Richmond.
*CHAUNCEY SHUMAKER, Pomeroy, Ohio.
IRVING LEONARD SILVERSTEIN, New York, N. Y.
*HAROLD WILLIAM SNODGRASS, Glade Spring.
*JOHN HAMMITT SPROLES, Pocahontas.
JAY EDWIN STOECKEL, Scranton, Pa.
*GEORGE VRANIAN, Richmond.
*FRANK ALTON WADE, Roanoke.
MARK BYRD WILLIAMS, Hampden-Sydney.
†HAROLD EUGENE WOLFE, Marion.

*Commissioned as First Lieutenant, United States Army, Medical Corps.
†Commissioned as Lieutenant (j. g.), United States Navy, Medical Corps.

Medical Meetings in North Africa.

Shortly after arrival in North Africa, 45th General Hospital, APO 367, c/o Postmaster, N. Y., which was organized from the faculty of the Medical College of Virginia, Richmond, Virginia, began holding medical meetings on the second and fourth Thursdays of each month. Major Guy W. Horsley, formerly Assistant Chief and now Chief of the Surgical Service, conceived the idea of such meetings and has arranged the program for all of them.

The first meeting was held in April in one of the hospital wards, but attendance increased so rapidly that the place of meeting had to be changed at each of three successive meetings to larger quarters until a room was found seating more than 150.

The speakers and subjects have been varied and many of the talks have been on personal experiences of the speakers in many corners of the world. One meeting was devoted entirely to the subject of Removal of Foreign Bodies, another to the Experiences of Medical Officers in the Tunisian Campaign, another to Experiences in the Belgian Congo with Tropical Diseases, and still another to the Experiences of the Commanding Officer of an Infantry Regiment with his Medical Troops in the Sicilian Campaign. Reports have been made on the control of malarial and typhus fevers and on sanitation problems encountered at the time of the invasion of North Africa.

Invitation to attend the meetings was extended to all Medical Officers both in hospitals and attached to troops through notice published in the Daily Bulletin of the Base Section where this hospital is located. They have at all times been well attended, not only by Medical Officers stationed in the vicinity, but also by many from considerable distances.

After the meetings, light and simple refreshments are served and much valuable medical information gathered through informal discussions in small groups.

It is the plan of the 45th General Hospital to continue these meetings which have proven such a great success throughout its stay overseas.

Married.

Dr. S. G. Miller, Covington, and Mrs. Mary Slaughter Kidd, Lynchburg, November 6th. Dr. Miller is a graduate of the Medical College of Virginia.

Dr. James R. Cash, Charlottesville, and Mrs. Mary Frazier Meade at Miquon, Pa., in October.

Dr. Giles Quarles Gilmer, Lebanon, and Miss Sue Wilson, October 18th. Dr. Gilmer is a graduate of the University of Virginia in 1943.

Dr. Horace Milton Dalton, Norton, and Miss Lalla Lee Laffitte, Estill, S. C., August 10th. Dr. Dalton graduated from the University of Virginia in 1939.

Lt. (jg) Joseph Shelton Bower, M.C., of Salem, who was graduated from the University of Virginia in December, and Miss Marietta Bagley McGehee of Lynchburg, December 18. They will be located at Bethesda, Md., where Lt. Bower has been appointed to the Navy Hospital.

Dr. James Edward McGee, Jr., of Roanoke Rapids, N. C., and Miss Jane Katherine Liesfeld of Richmond, December 20. Dr. McGee graduated in December from the Medical College of Virginia.

Dr. Frank Alton Wade of Roanoke and Miss Evelyn Henry Clark of Huntington, W. Va., December 19. Dr. Wade has just graduated from the Medical College of Virginia and Mrs. Wade was in the junior class in medicine.

Dr. Marion Bailey Murdock and Miss Katherine Clay Mallory, both of Richmond, December 21st. Dr. Murdock is also a member of the December class of the Medical College of Virginia.

Dr. Maston Lewis Gray of Huntington, W. Va., who graduated from the Medical College of Virginia in December, and Miss Roberta C. Shaw, of the senior class of nurses at the Medical College of Virginia Hospitals, December 19.

The Seaboard Medical Association of Virginia and North Carolina

Held its annual meeting in Richmond, November 30, through December 2, under the presidency of Dr. C. Lydon Harrell of Norfolk. There was an attendance of approximately one hundred and fifty, and many technical exhibits were on display. A number of interesting papers brought forth much discussion. The President's evening was on Wednesday, the first, at which time a dinner followed a cocktail party.

Officers elected for the ensuing year are: President, Dr. M. A. Pittman of Wilson, N. C.; vice-presidents, Dr. F. Ivan Steele of Windsor, Va., Dr. G. G. Dixon of Ayden, N. C., Dr. Robert H. Wright of Phoebus, Va., and Dr. I. A. Ward of Hertford,

N. C. Dr. Clarence Porter Jones of Newport News was re-elected secretary-treasurer, a position he has held for many years. It was voted to hold the 1944 convention in Wilson, N. C.

Dr. J. B. Fisher Honored.

On November the 26th, a number of people gathered at Midlothian, from that vicinity and the surrounding counties, and gave a party in honor of Dr. J. B. Fisher on the fiftieth anniversary of his locating in that community for the practice of medicine. Dr. Fisher has not only been a leading citizen of his community but has taken an active part in medical and political affairs of the State.

News from the University of Virginia, Department of Medicine.

On November 12, the Virginia Alpha Chapter of Alpha Omega Alpha presented Major-General David N. W. Grant, Flight Surgeon of the Army Air Force, as the speaker for their annual initiation program. His subject was "Problems in Aviation Medicine".

Dr. Herbert C. Clark of the Gorgas Memorial Institute, representing the National Research Council, gave two lectures to the student body and staff on November 19. The subjects for these lectures were, "The Age Level for the Peak of Acquired Immunity to Malaria as Reflected by Labor Forces"; and, "The Distribution and Complication of Amoebic Lesions Found in 186 Post-mortem Exams".

Dr. Robert V. Funsten attended a meeting of Orthopedic Specialists in Dallas, Texas, November 12th through 14th, to study treatments of poliomyelitis.

On November 22nd, Dr. Fred W. Stewart, Pathologist of Memorial Hospital for the Treatment of Cancer and Allied Diseases in New York, gave the Phi Beta Pi lecture on "The Relation of Trauma to Malignant Tumors".

On November 26th, Dr. C. J. Frankel gave a lecture on "Functional Backache" and on November 26th, Drs. W. E. Bray and T. S. Englar lectured on "Dysenteries" at Fort Belvoir, Virginia.

On December 2nd, Dr. Robert V. Funsten gave a lecture on "Fractures" and Dr. David C. Wilson lectured on "Psychoneurosis, Maladjustment, Neuropsychiatry" on December 16th at the U. S. Naval Hospital and Naval Academy Dispensary, Annapolis, Maryland.

The Richmond Society of Ophthalmology & Otorhinolaryngology

Held its annual meeting at the Commonwealth Club, Richmond, at which time the following were elected as officers for the new year: President and chairman, Dr. Peter N. Pastore; vice-president, Dr. Maynard P. Smith; and secretary-treasurer, Dr. Clifford A. Folkes.

The Upjohn Company,

Kalamazoo, Mich., following a special meeting of its Board of Directors on December 11, announced two important changes: Mr. C. V. Patterson, vice-president and director of sales, was made vice-president and director of production, and Mr. E. H. Shellack, general sales manager, was elected to the board of directors and made vice-president and director of sales. Changes at this time were brought about by the untimely death of Dr. Harold S. Adams, who was recently elected vice-president and director of production.

Dr. Walter J. Otis,

An alumnus of the Medical College of Virginia and member of the Medical Society of Virginia, who has been practicing for a number of years in New Orleans, has been re-appointed a member of the Committee on Military Psychiatry of the American Psychiatric Association, and has also been asked to serve on the Faculty of War-Time Graduate Medical Meetings in the Division of Psychiatry. His duties will be largely confined to Region No. 12, which has been assigned to the State of Louisiana.

Diabetic Identification Tags.

At the suggestion of the Medical Division of the U. S. Office of Civilian Defense, to prevent dangerous delay in diagnosis and to insure proper treatment during unconsciousness or coma, Eli Lilly and Company, Indianapolis 6, Indiana, in co-operation with the American Diabetes Association, will provide metallic identification tags to be worn by diabetic patients or carried in the pocket. The inscription reads "DIABETIC, If Ill Call PHYSICIAN." No advertising of any sort appears on the tags, which will be supplied to the medical profession on request.

Gen. Magee Heads New War Medical Information Office.

Major General James Carre Magee, Medical Corps, United States Army, retired, has been named

executive officer of the information service of the division of medical sciences of the National Research Council and assumed office as of December 1. Gen. Magee will devote full time to the organization of a central office in the National Research Council which will collect medical reports and records, widely dealing with military medical practice, civilian practice as affected by the war, medical education and research and the distribution of diseases. This material, so far as military necessities permit, will be made available by publications, summaries and notes.

This service has been established by the Council under the recent grant of the Johnson & Johnson Research Foundation of New Brunswick, N. J., by which $75,000 was made available for this work.

General Magee has spent his entire professional life in the medical service of the Army, and was recently awarded the Distinguished Service Medal for outstanding services as Surgeon General.

Dr. James C. LeFon,

Now serving as captain in the medical corps with the Fifth Army in Italy, has been wounded twice while performing duties on the front and has been awarded the Purple Heart and also the Oak Leaf Cluster. After his second hospitalization, he has again returned to the front.

Dr. R. Finley Gayle,

Richmond, was elected president of the board of directors of the Country Club of Virginia for the coming year, at its annual meeting on December the 2nd.

Dr. John Bell Williams, business manager of McGuire Clinic, was elected vice-president.

Dr. C. L. Riley,

Winchester, is among those elected to fellowship this Fall in the American College of Surgeons. He is a lieutenant in the U. S. Naval Reserves and is at present stationed in Richmond with the Naval Procurement Service.

The State Hospital Board

Announces that Dr. A. D. Hutton, for sometime an assistant physician at Southwestern State Hospital, has accepted the position temporarily as acting superintendent at the State Colony for Epileptics and Feebleminded, effective January 1. He succeeds Dr. G. B. Arnold, recently resigned to enter private practice in Lynchburg.

Dr. J. W. Freed of the Western State Hospital has been appointed acting clinical director at that institution.

Arrangements have been made to give a three months' course in psychiatry at the Eastern State Hospital to groups of nurses in the U. S. Cadet Nurse Corps training at general hospitals.

Announcement.

Effective January 1, 1944, the executive office of the American Board of Ophthalmology will be located at P. O. Box 1940, Portland 2, Maine. All Board correspondence should be sent to this new address.

Officers for 1944 are: Chairman, Dr. John Green of St. Louis; vice-chairman, Dr. Frederick C. Cordes of San Francisco; secretary-treasurer, Dr. S. Judd Beach of Portland, Maine; assistant secretary, Dr. Theodore L. Terry of Boston.

The 1944 examinations will be held in New York City on June 3rd and 4th, and in Chicago on October 5th, 6th and 7th.

"The Seven Ages of the Physician".

A tribute has been paid to the medical profession by Ciba Pharmaceutical Products, Inc., through Ciba's sponsorship of a series of paintings, "The Seven Ages of the Physician". The paintings which were executed by James Chapin, distinguished painter, symbolize the idealism of the men who devote their lives to the science of healing. Each of the seven paintings represents a crucial phase in the development of the physician, from infancy to old age. The paintings were shown at the Military Surgeon Convention in Philadelphia, recently, and were on exhibition at 711 Fifth Avenue, New York City, from December 20 to December 31.

Dr. James Q. Gant,

Class of '35, Medical College of Virginia, has recently been made a diplomate of the American Board of Dermatology and Syphilology. Dr. Gant is now Surgeon with the United States Public Health Service where he has for the past three years been associated with the Section of Dermatoses Investigations of the National Institute of Health at Bethesda, Maryland.

Promotions in the Service.

Promotions of Virginia doctors in the Service which have been noted since last month are:

Dr. Thomas A. Gibson of Winchester to lieutenant colonel.

Dr. John Edward Fissel, Jr., of Newport News to captain.

Dr. Benjamin Milton Kagan of Richmond to captain.

Dr. Bernard Katzen of Roanoke to captain.

Dr. James Volpe, Jr., of Jonesville to captain.

War-Time Graduate Medical Meetings.

A program on War-Time Graduate Medical Meetings has been worked out by the American Medical Association, the American College of Physicians, and the American College of Surgeons. This covers the period from October 4 through January 28, 1944. There are eleven hospitals at which these lectures are being given. January programs for Regional Zone Number Five are as follows:: Camp Lee, Virginia: 7th—Psychoneurosis, Maladjustment Neuropsychiatry by Dr. O. B. Darden, Associate Professor of Neuropsychiatry, Medical College of Virginia; 14th—Dysenteries by Dr. J. H. Scherer, Assistant Professor of Medicine, Medical College of Virginia; 21st—Newer Drugs and their Uses in Practice by Dr. Harvey B. Haag, Professor of Pharmacology, Medical College of Virginia; 28th—Diagnosis and Treatment of Contagious Diseases by Dr. Harry Walker, Associate Professor of Medicine, Medical College of Virginia. United States Naval Hospital and Academy Dispensary, Annapolis, Md.; 21st—Psychoneurosis Among the Armed Forces by Dr. Riley H. Guthrie, Professor of Clinical Psychiatry, Georgetown University School of Medicine. The lectures are held from 3:00 to 5:00 P. M.

Dr. Elbyrne G. Gill,

Roanoke, was elected secretary for the coming year, of the Eye, Ear, Nose and Throat Section of the Southern Medical Association at its recent meeting in Cincinnati.

New Books.

The following are recent acquisitions to the Library of the Medical College of Virginia and are available to our readers, the only cost being return postage:

Curie, Eve—Journey among warriors.
Hector, Lein and Scouten—Electronic physics.
Helion, Jean—They shall not have me.
Ingersoll and Martin—Laboratory manual of physics.
Medical Research Council—Aids to investigation to peripheral nerve endings.
Scoville, Powers and Crossen—The art of compounds. 7th ed.
Sherman, H. C.—Science of nutrition.
Taylor, Watson and Howe—General physics for laboratory.
Webster's Biographical Dictionary.
Zondek and Sulman—The antigonadotropic factor with consideration of the antihormone problem.

For Sale—

Used portable Hindle string electrocardiograph in good condition. Price $150.00.

Also, Used electric centrifuge. Price $10.00.

Address "Electro", care this journal, 1200 East Clay Street, Richmond 19. (*Adv.*)

Location Wanted

In Virginia, by physician, aged 61, excellent health, where community is in need of medical services. Address "C. W. R.", care this journal, 1200 East Clay Street, Richmond 19. (*Adv.*)

For Sale—

A General Electric X-ray Machine, guaranteed in good order. Address Dr. J. W. D. Haynes, Mathews, Va. (*Adv.*)

Obituaries

Dr. Charles Ernest McNiel,

Well known physician of Pennington Gap, died October the 26th, after having been in bad health for sometime. He was seventy-one years of age and a graduate in medicine from the Kentucky School of Medicine in Louisville in 1904. He had been a member of the Medical Society of Virginia for twenty-five years. His wife survives him.

Dr. Jesse Green Storie,

Grundy, died October 20th of pneumonia. He was seventy-five years of age and a graduate of the Tennessee Medical College in 1898. Dr. Storie had been a member of the Medical Society of Virginia for thirty-seven years.

Dr. Vance Monroe Cox,

Bristol, died October 15th of heart disease. He was sixty-three years of age and received his medical degree from the University of Nashville in 1909. Dr. Cox served as medical examiner for the induction center at Abingdon and was on the staff of the King's Mountain Memorial Hospital. He had been a member of the Medical Society of Virginia for thirty-two years.

Dr. Charles Lloyd Moore,

Retired physician of Charlottesville, died December 8th, after a long illness. He was a native of Richmond and 68 years of age. After graduation in medicine from the former University College of Medicine in Richmond, he practiced for a number of years in West Virginia. Dr. Moore was a captain in the medical corps of the Army during World War I. His wife survives him.

Resolutions on Dr. Wright Clarkson.

The Virginia Radiological Society desires to enter in its permanent records the following resolutions on the death of one of its most esteemed members, Dr. Wright Clarkson. These resolutions are an inadequate but sincere tribute to one whose memory will long remain in the hearts and minds of his many friends and colleagues:

WHEREAS God in His infinite wisdom has removed from our midst Dr. Wright Clarkson in the fifty-fourth year of his life;

BE IT RESOLVED that the Virginia Radiological Society has lost one of its most valued and active members, a man whose loyal devotion to his profession and colleagues exemplified those enviable traits of character admired by all. As its President at the time of his death and as its founder and staunch supporter, the Virginia Radiological Society reverently mourns his passing and pays tribute to his memory.

BE IT RESOLVED that during the past thirty years he has faithfuly served his profession and his community with unselfish devotion, forgetful of the physical and financial sacrifices involved. Rich and poor alike found a ready welcome in his office. Financial considerations never influence the care given his patients. Although burdened with a large practice which required spending many hours in his office, beyond those reasonably expected, he always found time to devote to church and civic duties.

BE IT RESOLVED that his ability as an organizer and leader contributed much to medicine as a whole and in particular to that in his State and community. He tenaciously fought to uphold high principles and ethics of medical practice and any errors committed were of judgment and not of heart. His contributions to medical literature are numerous but perhaps he accomplished even more by his tireless efforts to organize and improve medical groups for the betterment of his colleagues and the patients they served. He was founder of the Virginia Radiological Society, the Fourth District Medical Society (a component part of the Medical Society of Virginia), and the Virginia Cancer Foundation, the first organization of this kind in America. He was a member of many medical societies, a number of which he served faithfully and over long periods of time as a member of their various committees.

BE IT RESOLVED that he served his country faithfully not only in peace but in two periods of conflict when the ideals and principles for which he lived and worked were challenged. Soon after the United States entered World War I he joined the Medical Corps and became Chief of the X-ray Service of General Hospital 41. For several years before the present conflict he held a reserve commission in the Navy, and, while never called to active duty, he devoted much time and energy to the Navy as a Reserve Officer.

BE IT FINALLY RESOLVED that all members of the Virginia Radiological Society extend their heartfelt sympathy to his family in their bereavement, that we have lost a faithful friend and colleague whose memory we shall reverently cherish, and that these resolutions be made a permanent record on the pages of the Society proceedings.

Respectfuly submitted,

ALLEN BARKER, *Chairman*
V. W. ARCHER
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Resolutions on Dr. Frederick C. Rinker.

In the untimely death of Fred Rinker, Norfolk and the State have lost one of the best physicians, and his many patients have lost one of their best friends. Although an internist, he possessed many of the qualities of the old family doctor, which he no doubt absorbed from his father.

Dr. Rinker was born in Upperville, Virginia, on May 30, 1885. He received his early education in Upperville, then entered Roanoke College, where he obtained a B. A. degree. He entered the University of Virginia Medical School in 1907 and four years later received his medical degree. He spent 18 months at the Philadelphia Polyclinic Hospital and was an assisatnt physician for a year at the Pennsylvania Hospital for Mental Diseases. In 1914 he went to the University of Wisconsin as Instructor in Medicine and later was appointed Associate Professor. During World War I he was commissioned a First Lieutenant in the Medical Corps, and assigned to the University of Wisconsin to care for the health of the students. After the war, in 1919 he was invited to come to Norfolk by the late Dr. Southgate Leigh and joined the Sarah Leigh Clinic.

Dr. Rinker was a member of the Medical Society of Virginia, the American Medical Association, and at his death was President-Elect of the Norfolk County Medical Society. He was one of the older Fellows of the American College of Physicians, and was a Diplomate of the American Board of Internal Medicine.

He will be sorely missed by the Norfolk County Medical Society in which he was much interested and frequently contributed to its scientific sessions. It is with sincere sorrow that we pay this last tribute to our fellow member.

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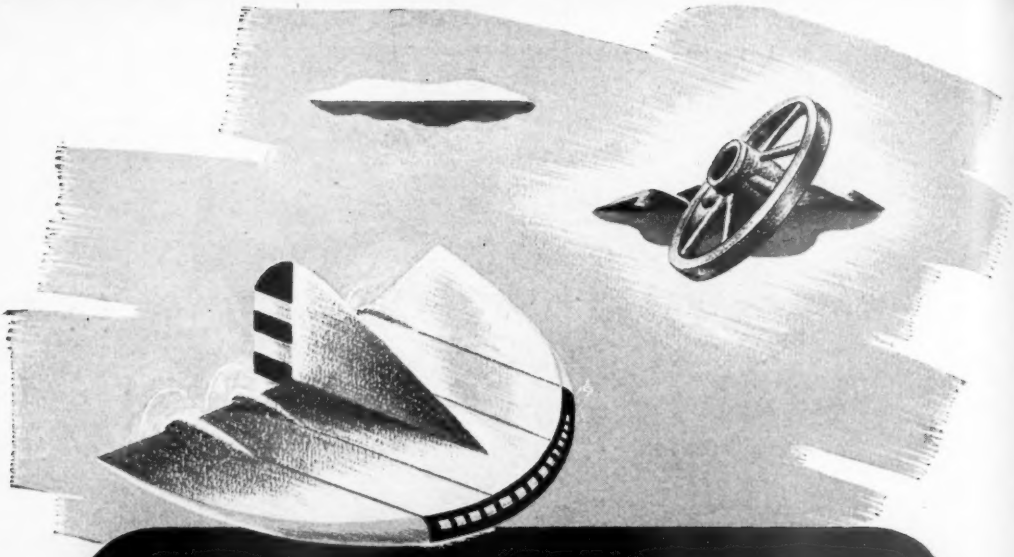

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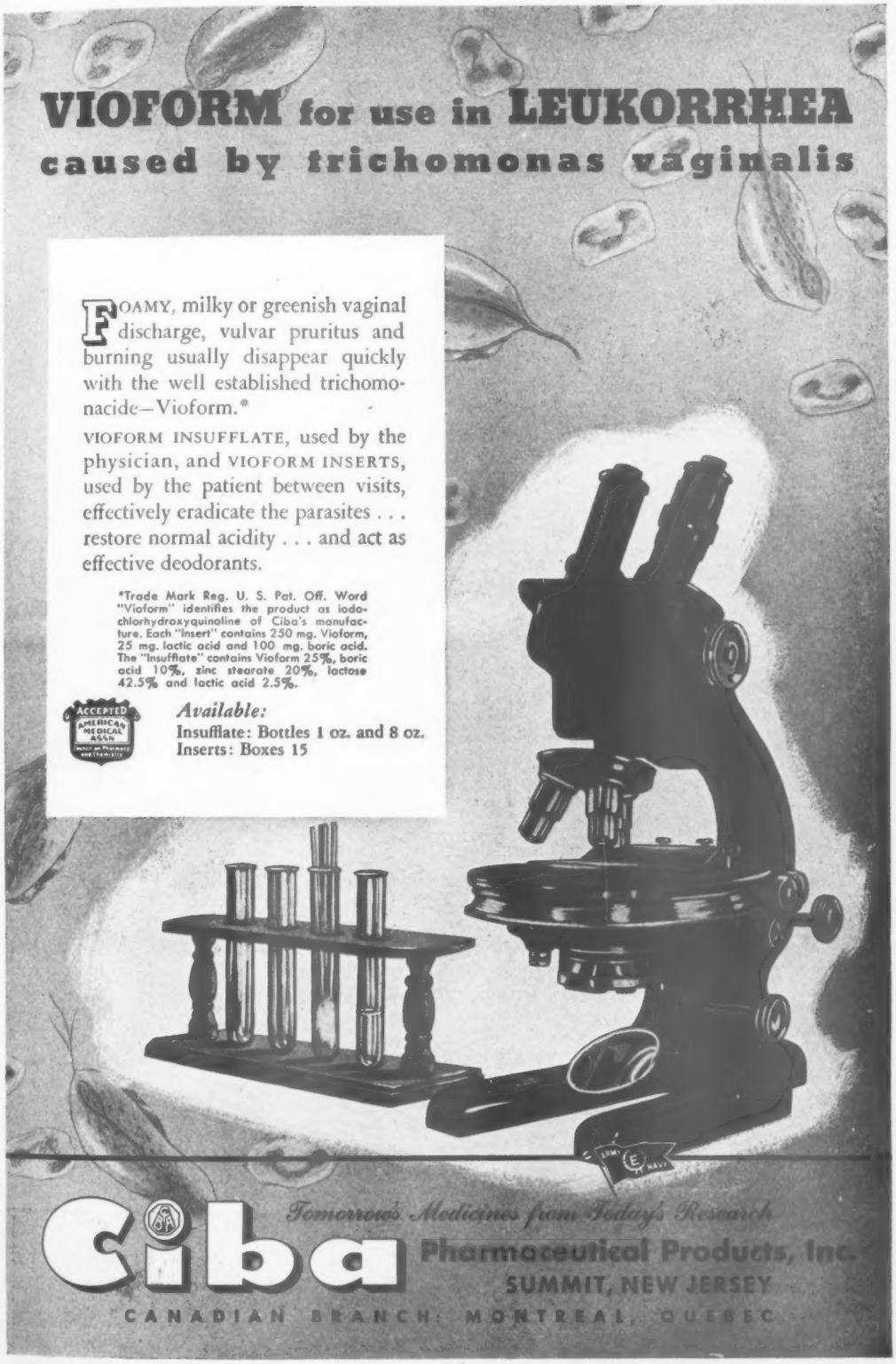

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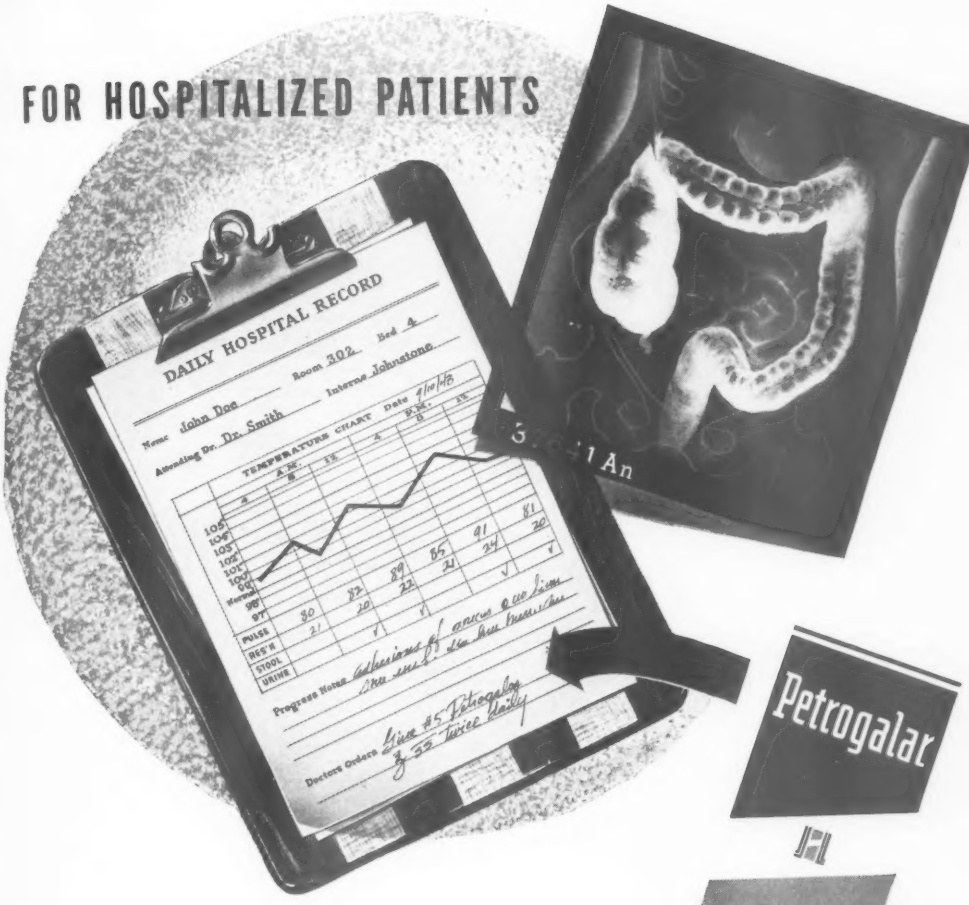

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